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WALTER E. FERNALD, M.D.
GEORGE M. KLINE, M.D.
DOUGLAS A. THOM, M.D.

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SELECTED MEDICAL AND SCIENTIFIC STUDIES.

THE PSYCHIC ASPECT OF INDUSTRIAL DISABILITY.

By H. W. Stevens, M.D.,

DIRECTOR OF THE HEALTH DEPARTMENT, JORDAN MARSH COMPANY.

Phases of Medicine in Industry.

More than ten years ago, in its study to improve human efficiency, industry enlisted the organized aid of medicine. The industrial application of medicine has already shown several phases of development beginning with attention to the gross and obvious causes of impaired efficiency, and progressing toward the more obscure.

The first of these phases represents a well recognized need and fairly well directed effort to control disability from injury and disease of specific industrial origin. In this class fall accidents incident to occupation, poisonings incident to chemical processes of industry, and a few diseases the cause of which can be definitely traced to the effects of immediate industrial environment. This phase of medicine has already become well recognized as a community interest and is represented by laws for the enforcement of its practical achievements.

A second stage may be defined in the expansion of medicine in industry to care for " non-industrial " disability. Such disability usually comprises the major portion of the total loss to industry through disease and injury. Among the diseases of this class " colds ", " indigestion ", and other affections of short duration are first in waste of working time. The more serious diseases and those of longer duration such as pneumonia, tuberculosis, heart and kidney disease stand lower in the list. The living conditions of industrial communities undoubtedly influence the prevalence of all such " non-industrial " diseases, yet in specific instances it is seldom possible to fix responsibility upon any particular industrial process. Nevertheless the advantage to production as well as the feasibility of the control of such diseases is recognized in industry and provisions for such are already found in the Health Service Departments of most well ordered plants.

The detection and control of gross physical defects, " industrial " or " non-industrial " are, however, not fulfilling the early hopes of industrial medicine. Dr. Roger Lee of Harvard University in a paper discussing the practical value of physical examinations said: In many ways the results of physical examinations in industry have been disappointing — the results of physical examinations do not at present seem to be stated in terms that enable us to appraise the personnel as exactly as the material assets of industry can be appraised.* This view is common to physicians who have occasion to estimate industrial effectiveness on the grounds of physical condition. Apparent physical perfection does not guarantee the highest degree of efficiency on the job. On the other hand physical defect is often not the sole cause of disability. Failure to do the day's work attributed to physical impairment is without doubt in many instances the result of an aggravation of physical handicap by influences such as prejudices and personal feelings or advice of relatives or friends.

A diligent search for the reality that underlies much industrial disability leads beyond the obvious facts to be discovered by ordinary physical examination.

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* Dr. Roger I. Lee, Journal of Industrial Hygiene, Vol. 3, No. 10, p. 304, February, 1922.

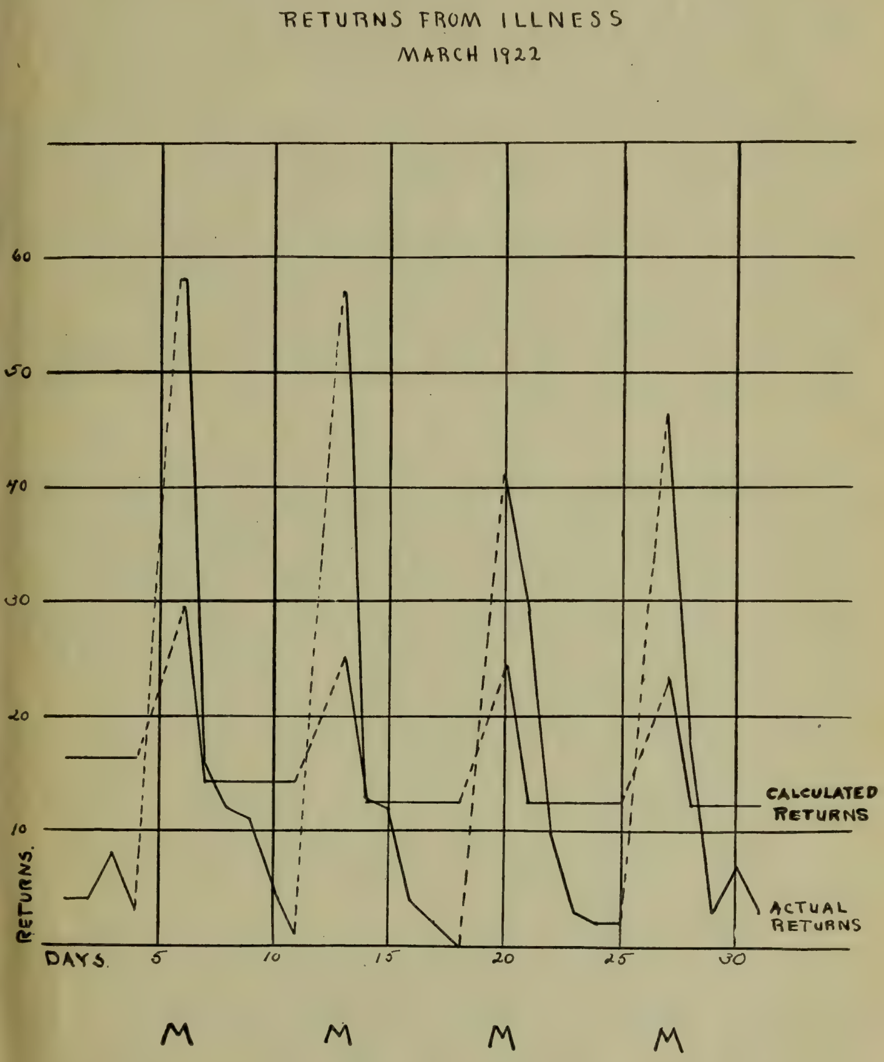
Here we find confronting us the investigation of a great group of ill-defined nervous or mental disorders manifested by vague physical symptoms or perhaps in peculiarities of temperament or traits of character, that often come only to the attention of employment management or of those immediately concerned with directing labor.

TYPICAL PROBLEMS.

An ex-service man twenty-eight years old soon after return to civil work as a truck driver was troubled by frequent attacks of nausea and vomiting. The attacks came on suddenly with no relation to food or other known circumstance. He often had to stop his truck and lie down by the roadside. This man's disability created a serious employment problem. Careful study by two hospitals and a special consultant found no organic disease. An accidental glance at a letter concerning his condition suggested to this man that his trouble might be due partly to his "nervous temperament". This new idea seemed to unloose his confidence and led him to relate certain events of his naval service that had left extremely distressing worries, which he had not told to any one before. Following a free discussion with the physician, which seemed to convince him his trouble was mostly "nervous temperament", the man's symptoms disappeared and he was able to continue his work without interruption for about a year until disabled by an injury.

A salesgirl of twenty-eight years had visited numerous physicians and several dispensaries and hospitals for symptoms of chronic constipation. The most careful medical studies found nothing but "chronic constipation." About a year of effort on the part of nurses and physicians succeeded in some degree in improving habits. The great burden of troubles was however unrelieved. This girl's extreme depression and melancholy outlook was at one time considered from an employment viewpoint a hopeless handicap. The weight of her burdens was such as to be felt almost physically by any one hearing them related. A neuro-psychiatrist who saw her at about the time when the employment division despaired of her prospects as a worker pictured her first interview with him in these words: "She sits down in my office with an utterly hopeless air that says 'here I am with my troubles, take them away if you can, there are plenty more where they came from'". Several visits to this physician especially experienced in personality difficulties succeeded in kindling a spark of hope. Reading the book "Outwitting Our Nerves" helped to establish the new viewpoint. The nurses and physicians of the store Health Department continued the task of stimulating this girl's personality with its burden of depression. During the year following her first visit to the neuro-psychiatrist this girl was several times mentioned for excellent service to customers in spite of the fact that she often felt like "eating them up". Her troubles are by no means all dispelled, but they no longer cast a gloom over all her business and personal relations. Her triumph seems to be in the development of a sense of humor that has brightened up the somber hues of her outlook of two years ago.

Another type of disability is found in the story of a truck driver thirty-two years old whose right ankle was injured as the result of the bursting of a tire. The injury was apparently only a bruise. After twelve days, however, because pain persisted special examination was made: the X-Ray showed a crack in one of the bones with no displacement of the parts. The man was cared for by a casualty insurance company about five weeks; at the end of that time he was told his ankle was well and that he might go back to work. After about a month he began to complain of weakness of the ankle felt while driving. He seemed to want a change of occupation although he was not able to make clear just what he desired. When careful reconsideration of his case produced no practical results he became more disgruntled and began to develop a complex set of mental reactions. He was inclined to make capital of the fact that his injury was at first considered less serious than it was in fact, although the treatment given at first was not essentially different from the treatment appropriate to the actual injury. He suggested that he might kill himself or some one else if kept on the truck, and threw out the disconcerting threat that he would not feel responsible for any accident that might happen to his truck while driving. When he was put on another job, the most appropriate that could be found, he protested that this was as bad as the first and besides the pay was $8.00 less on the new job, although in such cases any difference in pay is always made up.



First and last this problem occupied the time of numerous officials of the store and insurance company. It is possible that the number of persons concerned in trying to make an adjustment may have created another instance of "too many cooks". The fact remains that a physical defect which by all reasonable standards should have completely recovered within two or three months became complicated by certain psychic factors which prolonged the period of partial disability to eight or nine months at least, and in the end came almost completely to overshadow the original physical impairment.

Many other similar instances could be related of actual disability with no discoverable physical defect, or of physical defect with associated disability exaggerated beyond all expectation based upon knowledge of physical facts alone. Further an employment manager could supply a long list of problems in work adjustment or in discipline, ranging from misfits to stealing, all of which show some peculiar twist of personality as the real cause of failure as human units in industry.

Thus far our means are limited for studying functional nervous disorder on a large scale. One study recently made is suggestive in the graphic evidence it furnishes of the psychic element in failure to work. The accompanying chart represents returns from illness over a month period. The curve marked " Actual Returns " shows conspicuous rises and falls with the highest peaks corresponding to the first working days of the week, indicated by " M ". The curve marked " Calculated Returns " suggests the rate of returns if that rate were to follow our expectations based upon recovery from illness unaffected by any other facts. There is of course nothing in our knowledge of disease incidence and recovery to explain this cyclic fluctuation of the " Actual Return " curve with its periods of one week. The explanation must be sought elsewhere. The popular notion about " beginning the week right " obviously has an influence: the idea that there is some special virtue in receiving pay by even weeks is a factor. The comforting mental effect of a generous sick benefit undoubtedly has its influence.

Scope of the Problem.

In using the term " Functional Nervous " we have no thought of describing an entity. The term is used only as a designation for a heterogeneous group of symptoms causing physical or nervous impairment that cannot be classified by any of our present methods of diagnosing gross disease. Into this group fall all the complaints variously classified as " Fatigue ", " Run Down Condition ", " Nervousness ", " Nervous Exhaustion ", and " Nervous Breakdown ". This method of classification is inexact. We are certain that such a grouping always includes at least a few cases of incipient or obscure physical disease. Yet when for a moment we turn back our thought to the war time problems of " Neuro-Circulatory Aesthenia " * and other disabilities brought out or aggravated by war conditions we recall the practical necessity at the time for some authoritative classification of vaguely defined disability. We also recall our conviction that these disabilities had their origin " not in transient (war) conditions to be dispelled with the return of peace but in more permanent conditions that have undoubted social and industrial import ".† The need has already arisen for a similar classification for practical industrial purposes. For this classification " Functional Nervous " seems as inclusive and exact as our present knowledge warrants.

In a group of store workers numbering about 4,000, in a six months from October to February, the diagnosis of " Nervous System Functional " was made 506 times. During the same period functional nervous disorders stand fourth in order of frequency among the complaints treated in the store Health Department. Of the total 4,000 workers 405 persons were affected in the six months period. Thus about 10% of all workers manifested disability from such complaints. During the same period 1,546 days of working time were lost by 123 individuals from this same cause. This comprises about 9.2% of the total time lost through illness. We have no satisfactory means of estimat-

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* "Neuro-Circulatory Aesthenia" is a term invented during the recent war by officers of the U. S. Medical Corps to designate a nervous disorder of the heart action quite distinct from any real disease of the heart itself.

† "The Future of D. A. H." not published. "D. A. H." (Disordered Action of the Heart) is a term used in the British Army for the same disability for which the U. S. Army used "Neuro-Circulatory Aesthenia".

ing impairment of efficiency among those who complained and stayed on the job. Further we can only guess at the part functional nervous disorders might have in complicating convalescence and in prolonging absence caused by gross disease and injury. Not to be forgotten is the drain upon potential human efficiency due to mental inferiority and lack of moral stamina of workers, handicaps that seldom assume the form of "complaints" in a medical sense. An appraisal of those qualities of personality that make the difference between porter and president is a matter for speculation. We are certain, however, that of all these causes, considering only the portion appropriately within the field of the physician in industry, we have a reduction of efficiency exceeding that represented by the 9.2% of total time lost from illness.

FUNCTIONAL NERVOUS DISORDERS AND SOME RELATED FACTS.

The following tables were compiled from figures over the six months period referred to. Table I. compares incidence and absenteeism from this cause among "Sales" and "Office" workers.

TABLE I.

	CASES.	Per Cent Incidence.	Individuals affected.	Absences.	Lost Time in Days.
Sales	231	12.8	201	67	688
Office	90	14.4	74	21	382

These figures suggest that nervous disorders are somewhat more prevalent among office girls than among sales workers. While making this comparison which seems to imply some causative influence in type of occupation we must remember that the age and sex factors may figure in the difference and also that the hygiene habits of office girls are notoriously careless.

TABLE II. — *All Departments.*

	INCIDENCE.	Per Cent Incidence.	Individuals affected.	Absences.	Lost Time in Days.
Males	73	5.2	68	21	219½
Females	433	18.0	337	109	1,326½

TABLE III. — *Sales Departments.*

	INCIDENCE.	Per Cent Incidence.	Individuals affected.	Absences.	Lost Time in Days.
Males	33	5.1	29	8	46
Females	204	15.7	172	59	642½

TABLE IV. — *Offices.*

	INCIDENCE.	Per Cent Incidence.	Individuals affected.	Absences.	Lost Time in Days.
Males	3	2.7	3	–	–
Females	87	16.7	71	21	382½

Tables II., III., and IV. suggest the influence of the sex factor upon incidence and degree of disability. It appears that the incidence is distinctly higher among females. The cause of this difference might be assumed to be entirely a matter of sex, but for the fact of numerous extraneous conditions such as home responsibilities among the older women. It should be noted that we have reason to believe that a smaller proportion of men than of women affected report their complaints at the Health Department.

DISCUSSION.

In individual cases industrial circumstances are often found to have a bearing as an aggravating cause at least. It seems probable, however, that specifically industrial factors have relatively little causative influence, but that the more important causes are to be sought in home or community conditions, past or present. For instance the salesgirl whose industrial history is outlined tells of an early childhood in a home with the mother sick with cancer. She was always poor and never knew where the next meal would come from. She recalls days when she came home from school to find nothing to eat in the house. It is possible that this story may have been somewhat dramatized in the light of her recent knowledge yet in its essentials it is probably true. The story of the truck driver reveals the distressing picture of a sensitive high-strung young man in a strange environment, with new responsibilities, under the immediate command of a superior whom he describes as a bully, who terrorized him mentally and physically. The analysis of the industrial behavior of individual cases, as also such analysis as is possible of group problems, strongly suggests that beneath much " nervous exhaustion " and protracted convalescence as well as " laziness ", failure to adapt to the job and even discipline defying " cussedness " there are discoverable and probably remediable factors of character or personality. Some of these peculiarities are undoubtedly inherent and hence difficult to control; all are probably affected by environmental conditions that can to some extent be modified.

DEMANDS OF INDUSTRY.

Our observations convince us that many employment difficulties created by functional nervous disorders can be removed or much relieved. Considering the efforts of many persons involved and the time spent on most of these we must admit that at present our methods are crude and expensive. Furthermore we have to face the disappointment that as physicians in industry we can hope only to patch up damage done or try to repair deficiency that had origin years before — much of it probably before the worker reached the employment age, or perhaps in infancy. Industry does not maintain permanently the experimental stage; it will soon require a practical reply upon this important element of industrial effectiveness — the mental factor. That reply may well come from several sources: medicine, psychology, social science, or education. Whatever the field where it is sought, the answer must be found through the endeavor of keen observers and interpreters of character and personality, who keep constantly before them the fact that " doing-things " is the " pass-word " in an age of industry. Beginnings have been made in the form of " Performance Tests ", " Psychological Tests " and " Mental Hygiene " for the community. There is still abundant adventure for pioneers in this " no-man's-land " that lies between Disease and Health, where must be found the hidden causes of the ineffectual personality.

MENTAL PROBLEMS OF CHILDHOOD.*

By Douglas A. Thom, M.D.,

DIRECTOR DIVISION OF MENTAL HYGIENE, BOSTON, MASS.

That Boston University, an institution built upon a foundation of sound knowledge and high ideals, should interest itself in the mental problems of childhood to the extent of offering a definite course of instruction, bears witness to the fact that in the great scheme of social medicine the child is no longer to be ignored.

Dr. William A. White has referred to the status of the child in the past, in all races, primitive and civilized, and to the way the child has been treated as "one of the saddest pages in history." The child has been, and still is, to a greater or less degree, considered the property of the parent. The right to live may even be challenged. Economic stress, religious rites, strange savage superstitions have all been used for the purpose of dispensing with the unwanted child.

Paupans of New Guinea, we are told, kill and eat their children in times of famine. In certain Australian tribes the mother kills and eats the first born to give her strength for the children which are to follow. The early Israelites sacrificed their first born to God. In New South Wales the female child was always sacrificed for economic reasons, while the male was offered up as a religious rite. The old Roman laws gave the father the absolute right to sell or kill his children as he chose, while the Salic Law of the Franks imposed a fine of two hundred sous for the murder of a free girl under twelve years, and six hundred sous for the murder of a free girl over twelve years. Although the strongest motives for infanticide in early days were perhaps economic, less definite excuses were frequently acceptable to the tribe, such as being born with teeth, or with some malformation, or on an unlucky or stormy day. All these conditions constituted valid excuses and reasons for the execution.

The industrial history of the child is hardly less black until the dawn of the present century. "The factory conditions under which children were employed," says Dr. White, "were horrible beyond description, the children being slaves in all but name. Children were a source of cheap labor, and therefore greatly sought for economic purposes. If they ran away they were beaten when caught, even chained. They were kept under most atrocious sanitary conditions." The destitution and poverty of the people forced them to send their children to work early, usually between the ages of six and seven.

One reaches back into the past for these gruesome examples for the purpose of emphasizing by contrast the heritage of the child born in this twentieth century. This has been called the era of the child, and is a period which has come only after centuries of cruelty and abuse, the story of which has never completely been told. In the social scheme of things to-day the child plays a very important part. The hospital, the doctor, and the nurse have all been specially planned for and trained to serve his immediate needs upon arrival; a teacher has been provided whose duty is to find definite ways of developing and stimulating his interests and holding his attention while he is groping for intellectual experience; there are special investigators to lead him into the most desirable industrial pursuits; legislation has been enacted which prevents the industrial slavery of years gone by, and permits the young mind to have a chance to develop. Special courts and judges and a well organized system of probation give him certain privileges to which his immature years entitle him. In passing, I can only mention the time and attention that have been given to amusements for children. Books and games have been written and organized to meet the demands of nearly every type of personality, and children's theatres have been established where plays are presented, with the idea of interesting but not over stimulating. This assuredly is the age of the child.

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* Delivered at Boston University School of Education, October 2, 1922.

These changes in the attitude of society toward the child have been translated into better facilities for physical health, increased opportunities for educational advantages, reforms in the solution of problems concerning delinquency, prevention of infant mortality, and various other factors which should tend toward the betterment of mankind as a whole.

We shall now turn our attention to another aspect of the child's life which is beginning to receive the attention which it so justly deserves, that is, the problem of mental health. Much excellent work has already been done along this line by Drs. Healy, Adler, Campbell, Glueck, and Potter in this country, and several valuable contributions have come from abroad, those of Jung and Freud being of value and interest. Much of this work has dealt with a special group, the delinquent, while other studies of equal importance have been devoted to a careful analysis of individual cases.

One cannot pass on without mentioning the fact that some of our best character descriptions have come from the pens of ancient and modern authors of fiction, who have given us a very much more vivid picture of personalities than we have obtained either from our own experiences or from the writings of the psychologist or psychiatrist.

To return to the text, the problem of the mental health of the child must be studied and evaluated in terms of behavior. Some day perhaps we may have more precise means and methods of procuring data, but behavior is our guide post, and the determination of the mental content of the child's mind is our goal.

If we are to understand human behavior, whether it be manifested by infant or adult, whether it be found in the nursery, the school, the shop, or the prison, it must be interpreted in terms of the individual's mental and physical equipment, the environment in which he has been reared, his past experiences, and his general reaction to the problems of his every day life.

The success or failure of the individual to adapt himself in a manner satisfactory to those with whom he is associated may depend upon numerous and varied factors, all very intricate and involved, frequently closely interwoven one with another. Good bodily health, dependent perhaps upon some simple problem of nutrition, a nervous system capable of functioning in a normal manner, a proper balance between the glands of internal secretion, a complex bit of biological chemistry of which we are all too ignorant, and even less well defined inherent defects which prevent the normal development of certain instinctive reactions and habits, all play an important part.

The fact that most of our behavior, whether it be conscious or unconscious, is dependent upon habit, makes it necessary to pause for a moment and clarify our ideas. McDougal states that " an acquired mode of activity becomes by repetition habitual, and the more frequently it is repeated the more powerful becomes the habit as source of impulse or motive power." This clear concise definition points out the fact that habits are acquired and that impulse is strengthened by repetition. Dewey makes his definition less concise but more dynamic by his explanation. " All habits," he states, " are demands for certain kinds of activity and they constitute the self. They form our affective desires and they furnish us with our working capacities. We may think of habits as means, waiting like tools in a box to be used by conscious resolve, but they are something more than that, they are active means that project themselves, energetic and dominating ways of acting."

In the foregoing statements it is quite evident that habits are more than an inherent tendency toward some particular act. A bad habit is not something to be taken on and discarded at will. It is not a foreign malign power which suddenly rushes down upon us, compelling us to act in a way incompatible with our own true selves. " It has the hold upon us because we are the habit."

The point of view presented by Dewey is extremely interesting as it lays stress upon the importance of the fact that habits are directly dependent upon certain conditions and they cannot be dismissed by mere effort of the will any more than the condition which is responsible for the habit can be dissipated by mere desire. This fact indicates the importance of utilizing every "intelligent inquiry to discover the means which will produce the desired result," which means simply a careful study of the circumstances and conditions under which habits are formed.

Graham Wallas in his discussion of habit as it is related to society, rather than to the individual, points out that the permanence of habit and its ability to adapt itself to variations of external stimuli, must be combined with and supported by some organized body of ideas. He substantiates this point by a quotation from Aristotle: "We can only call a man's actions just or virtuous, when the man who does them knows what he is doing, when he acts with deliberate choice, and his choice is based on the real nature of his action." This expresses very clearly the relation between habit and thought in conduct, and it is of tremendous importance when we are endeavoring to establish habits which will receive their force and impulse from very definite organized ideas, and which will thus be assured of a greater degree of permanency than if they were developed and actuated by motives which eminated from the particular situation at hand.

From the foregoing, one may get a fairly clear conception of the term "habit" in the sense in which it will be used from now on. It will be considered an acquired mode of activity which receives its driving forces from affective desires, these desires eminating from certain existing conditions which cannot be ignored in our effort to stimulate, inhibit or alter habit formation. Further, the impulse and permanency of habits is entirely dependent upon the ideas around which the habit is organized.

If habits are to be considered as being closely allied with the instinctive life of the individual and only separated by the fact that the former are acquired tendencies while the latter are innate tendencies, it is not only fair to assume that habit formation will be dependent more or less upon certain inherent dispositions, but it is necessary to determine just which tendencies play the most important role in the development of personality. Although, as Watson has stated, "There is no satisfactory way to give an account of habit formation in terms of cause and effect," there is an urgent need of studying the effect of environmental influences upon the plastic mind of the young.

Before taking up the subject of environmental forces, let us consider for a moment some of the more important instincts, innate tendencies, natural propensities, call them what you will, which are products of the human mind. For our purpose it is not necessary to enter into any academic discussion regarding the instincts and pseudo-instincts.

Self-preservation, sex, self-abasement, self-assertion, gregariousness, play, sympathy, imitation, and suggestion, can all be considered natural propensities, definite tendencies of the human mind, and are fundamentally important in any discussion of habit formation. These instinctive forces should develop during the natural history of the child, and in logical sequence with his needs. It is quite obvious that at birth there is no particular need for the instinct of play, while the inherent tendency which prompts the child to feed is absolutely essential for its preservation.

Without the development of the instincts, which Professor McDougal defines as the "essential springs or motive powers of all thought and action," there would be no conflicts, no need on the part of the individual to meet or adapt himself to various situations; and it is by virtue of these instincts that the child, in making an effort to establish his own individuality, impinges upon the environment, comes in contact with paternal opposition, for example, thus bringing about his first conflict. This is the period in which the different traits of character first make themselves known to the family, and this is the time when they are capable of being modified, either by being stimulated or inhibited, or perhaps colored by the development of some other associated trait. We see daily in our dispensary work, the results of some over-developed, under-developed or abnormally developed trait of character with which the patient has been struggling for years, sometimes consciously, more frequently unconsciously. It may be self-consciousness, jealousy, cruelty, suspicion, timidity, or a feeling of inferiority. Even in adult life, it is of the greatest therapeutic importance to determine the origin of these unhealthy traits and to study their development in order to bring them out of the unconscious and allow them to be digested and assimulated by the patients so far as possible. However, it is much more important to recognize them in their early development before they have become woven into the fabric of the individual's personality.

The instinct of self-preservation and those combined innate forces which are so dominant during early life, find their chief function in protecting the child from unhappy experiences brought about by environmental conditions such as, being allowed to remain wet over long periods of time, being subjected to situations where fear is aroused and the more organic cravings of life which are brought about by hunger, thirst, etc.

Perhaps there is no emotion to which the child is more frequently subjected than that of fear. It can be aroused in such vague and intangible ways and is associated so closely with other emotions, that it is frequently very difficult to determine which is cause and which is effect. I am sure that in speaking to this audience, there is no necessity of calling your attention to the fact that as a corrective measure, stimulating fear in the child is not only barbarous and cruel, but utterly useless. The unreasonable fears that we hear spoken of in children are unreasonable only because of our limitations in understanding the experiences through which the child is passing. As I have already stated, one frequently feels that from the pages of fiction, both the old and the new, we get a much more vivid and frequently more accurate account of the emotional life than we do from the psychologist or psychiatrist. The following is an excellent description of an intense emotional situation in a very young child:

> It did sound like a lost soul at times. What panic possesses a baby who cries in the darkness alone, no one will ever know, and one may perhaps give thanks to whatever gods there be that the baby itself does not remember. What awful woe of sudden unprotectedness when a life exists only through protection, what piteous panic in the midst of black unmercifulness, inarticulate sounds, howsoever wildly shrill, can never explain or express. The baby knew only the nurse, warmth, food and sleep and waking, or if she knew more, she was not yet aware that she did. No one came. The discomfort continued — the darkness remained black, cries became shrieks — but nothing followed. The shrieks developed into long screams — no nurse — no light — no milk. The blackness drew in closer and became a thing to be fought with wild little beating hands. Not a glimmer — not a rustle — not a sound. Then came the cries of the lost soul — alone — alone — and a black world of space in which there was not even another soul, and then the panics of which there have been no records and never will be, because if the panic stricken does not die in the mysterious convulsions, he or she grows away from the memory of the formless past except that perhaps unexplained nightmares from which one awakens, quaking with cold sweat, may vaguely repeat the long hidden thing, — the bitter hopeless, beaten little sobs went on.

Victor Hugo in his "Recollections of Childhood" states, "A thing once said sinks in the mind, that which has struck the brain often from time to time comes back again and in the breast of simple infancy, lives unexplained, full many a mystery."

Bergson has stated somewhere, "The past follows us at every instant. All that we have felt, thought, or willed from our earliest infancy, is there leaning, and the present which is about to join it, pressing against the portals of consciousness that would feign leave it outside. The cerebral mechanism is arranged just so as to drive back into the unconscious almost the whole of this past and to admit only that which can cast light on the present situation."

The foregoing descriptions are much more dynamic and serve my purpose better than any academic discussions on the emotion of fear. The point is to impress you with the importance of the relation between infantile emotional experiences and the development of the mental life.

With reference to the sex instinct, it has been commonly taught and believed that suddenly and mysteriously about the age of puberty, the individual becomes conscious of his sex life. The folly of such ignorance is pathetic and the results not infrequently irreparable. Notwithstanding the fact that certain physical and physiological changes occur at this time, the instinctive forces have been operating from infancy. There is no way of measuring the fears, the doubts, the misgivings and mental anguish that are brought about by the struggle carried on alone and unaided to solve this baffling, secretive, ever tabooed subject of sex.

Perhaps there is no shoal upon which so many young lives are wrecked and not infrequently ruined as that of ignorance pertaining to sex hygiene. Too much stress cannot be laid upon the importance of unfolding these vital truths in the proper way, at the proper time, and by the proper person. This instinct, second in its strength to none other to which the human mind is heir, needs to be guided, controlled and inhibited to meet the demands of society as none of the other instinctive forces. Therefore, the need for intelligence and control, the two great stabilizers of instinct, becomes apparent. From what source and at what time shall this intelligence be rendered? The source is obviously the parents and the time can be judged only by the rapidity with which maturity has developed. Certainly before the natural social punishment has been inflicted by ignorant indulgences. Certainly before unnatural gratifications of this instinct have led to the formation of habits which undermine the moral stamina of the child, by developing a degrading sense of inferiority. The parents will gain nothing by secrecy, except to preserve partial ignorance, and it will be discovered that the enlightenment has been found and interpreted in the terms of the gutter. Let this instinct, which may well be the basis of all that is pure and sweet in the girl and all that is strong and manly in the boy, be guided by intelligence and reason, rather than by a blind, furious, uncurbed passion.

There is a certain group of instinctive forces developed early in the life history of the child which are of primary importance in his future relation to society, and in any effort to aid him in the development of desirable habits, we group these forces under the name of the gregarious instinct or the feeling for companionship, found at a very early age. This tendency is tremendously important because the fact that the individual desires companionship and a place in society, acts as a motive for the development of desirable social reactions. That children begin to enjoy the company of others of the same age between the second and third year, is undoubtedly due to the fact that they have a better understanding of one another. Obviously, this tendency should be encouraged and stress should be laid upon the development of personality rather than the development of intellect during these early years.

Sympathy begins to play its part also at a very early date, but lacks the permanency and stability of some of the other innate tendencies. This feeling is in no way dependent upon experience, but rather upon acuteness of imagination and the ability to project one's feelings freely. If highly developed, it is a very useful weapon to counteract cruelty.

Love of approbation is observed in the conduct of the child after the third year and possibly before. Children are greatly influenced at this stage by praise or blame; later on, as they begin to mingle with others in gangs or groups, they are much more impressed by the praise or blame of the group leader than by that of the parent or teacher. However, it is very rarely we find a child that is not sensitive to either praise or blame. Early in life a child finds it is greatly to his advantage to enjoy the good opinion of others, and his attitude of concern regarding what other people think is of vital importance to parents and teachers in directing conduct, and as an appeal on this basis is on a higher plane than bribes and threats, it should be utilized more frequently.

Suggestibility, used in its broadest sense, implies " the acceptance with convictions " but without adequate grounds for its acceptance. It needs no elaboration to understand how beneficial or detrimental this trait may become, depending entirely upon the source of the suggestion. McDougall points out that suggestion may be dependent for its success on a condition which may be called prestige suggestion, the respect the child has for the individual who presents the suggestion.

Imitativeness is a term which may be considered broadly as the process of accepting suggestion. It is used here to denote that tendency so potent in childhood to mimic the words and actions of others in the immediate surroundings. Although to a large extent the stimuli which permit imitation are either of a visual or auditory nature, the nervous system is constantly receiving psychosensory stimuli of a more vague and ill-defined character. These have much to do with the development of personality and it is quite important in studying emotional reactions and resulting conduct to give these psychosensory stimuli certain consideration. For example, the psychosensory stimuli of which I speak, may be felt following dreams, either of pleasant or unpleasant character, or after having been thrust into a situation where the mental atmosphere is tense, because of excitement, anger, or intense curiosity, so that not only are words and acts imitated, but the very mental atmosphere in which the individual is living may be absorbed and color his whole mental life.

There are numerous other innate and early acquired tendencies which are deserving of more attention than our time will permit. Play and curiosity are probably very fundamental forces of the human mind, and if utilized, can be of great assistance in the development of both personality and intellect. Many an undesirable habit can be replaced by stimulating the instinct of play, while curiosity is one of the forces initiating intellectual pursuits.

The altruistic tendencies do not play a very important part in the child's life until he becomes interested in the herd, and takes part in group games and sports. The esprit de corps seen in the boy scouts, and loyalty to the baseball or football team, are good examples of the earliest manifestations of the herd instinct. No effort should be spared to encourage the growth of this spirit, where it leads to habits of self-sacrifice and a recognition of the fact that it is sometimes necessary to disregard self for the benefit of society, and where it demands that the individual act on a higher social plane.

All these tendencies of the human mind act and are acted upon because of the fact that the mind has one ever present and dominating characteristic which we term " plasticity." " Plasticity," says William James, " means the possession of structure, weak enough to yield, and strong enough not to yield all at once." Further, " the phenomena of habit in living beings are due to plasticity."

The complexity of man has been pointed out many times, together with the fact that he is endowed with great capacity for modification, has few fixed modes of reaction to stimuli, and that the period of immaturity lasts much longer than it does in other animals. This being true, the importance of infancy with its accompanying plasticity immediately becomes evident. The fact that this plasticity decreases rapidly after adolescence is reached, emphasizes the importance of cultivating it early and making every effort to retain it, in order that the individual may meet successfully the ever increasing demands of modern civilization. Lack of plasticity and adaptability spell defeat in the economic and social world.

Inasmuch as the mind of the child is inherently plastic, we obtain at any given time only a cross section of his personality as it is continually in the process of construction. Therefore, as I have previously stated, it is necessary to interpret the reactions of the child in terms of its past experiences and its environment. It therefore seemed important to review the character of the material with which we are to deal before going on to discuss the effects that environmental influences produce upon this material. These various fundamental tendencies are stimulated, inhibited, or altered in character only as they are affected by other forces, either forces within the individual or forces in the environment. The result of these two interacting forces we term conduct. It is therefore essential to say just a word with regard to the agents which act upon these tendencies and the pathways through which they operate.

The two pathways through which the mind is reached, are the blood stream and sensory impressions. From a psychological point of view, we are particularly interested in the effects of the latter. In other words, our next concern is the environment from which the child receives its impressions, and the personalities dwelling in that environment, with especial emphasis on the immediate surroundings in which the child spends its early years.

The small, dark, overcrowded, poorly ventilated hovel with its grossly unsanitary conditions, where the family dwell together in the most revolting intimacy, must be taken into account in any study of the mental life of the child. Even more important, is a careful personality study of the parents and others with whom the child comes in intimate contact, together with community surroundings, playmates in general, special chums, the places and opportunities for amusements, such as the community playgrounds and settlement houses, and any particular locations which seem to be the rendezvous of the gang. All the opportunities for connecting a child up with the various clubs for boys and girls, gymnasium classes, boy scouts and the like, should be studied and utilized in any scheme which has to do with the development of desirable habits in the young.

If there is any place for psychiatry and psychology in that great humanitarian movement which we term preventive medicine, certainly it is in this period of life during which human misfits are in the making. Our knowledge, however, of the intricate and involved mechanisms of the human mind is extremely meagre, probably because only a limited number of the best intellects have turned their attention to the practical importance of this aspect of medicine. This is particularly true in America, but there is one gleam of hope in that if so much can be done that is worth while with this limited knowledge, the tremendous field remaining should certainly stimulate us to further explorations.

In my next lecture * I propose to discuss with you the work which has been going on under the name of "Habit Clinics" in connection with the Baby Hygiene Association. Here we will deal very largely with specific problems and individual cases, showing how some have been successfully dealt with because of our understanding of the inherent forces and external agents operating, and indicating how they have been altered to the advantage of the individual. We shall demonstrate in other cases that we have failed because of this lack of understanding, or because the inherent forces had operated so long and apparently so successfully that they were quite as much a part of the individual as the color of his eyes or the size of his head, and would not yield to environmental changes. On the other hand, perhaps failure came about because of our inability to change the external agents. However, whether we are rewarded by success or disappointed by failure, we can be assured that there is no other method by which a real contribution can be made to the psychopathology of childhood, than by the well organized and co-ordinated efforts of the parents, teachers, social workers, psychologists, visiting nurses and physicians.

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MENTAL HYGIENE FOR CHILDREN OF SCHOOL AGE.

By Ransom A. Greene, M.D.,

SUPERINTENDENT TAUNTON STATE HOSPITAL, TAUNTON, MASS.

The subject "Mental Hygiene for Children of School Age" divides itself into two parts, — hygiene for the abnormal and for the normal. With the abnormal the most important recent advance is the survey required by law for the examination of children retarded in school three or more years. The carrying out of this survey under the direction of the Department of Mental Diseases and the Department of Education has been going on for some time. As its functions are not fully understood, I refer to it with emphasis at this time. There have been already about five thousand children examined and records made.

In what I am about to say with regard to this survey, I am quoting Dr. Walter E. Fernald who is the father and sponsor of this work. I am not quoting him verbatim but am only repeating ideas which he recommends and which are being used in these clinics.

In this survey there is an examination of the child and for each child examined there is a special recommendation made. The recommendations made are upon the basis of the examination and are in general in accordance with Dr. Fernald's formulæ. They include the following headings:

(*a*) *Special Class.* — In general a child may be recommended for special class who is not beyond twelve years of age chronologically and is over four years of age mentally. The special classes for the public schools include kindergarten work, academic teaching to the capacity of the child's mentality, manual training, and above all the individual attention of the special-class teacher who has an understanding of the individual and his ability.

(*b*) *Continuance in Grade.* — It is sometimes found that a child over twelve, though he may be undersized, is perhaps best fitted to continue in the grade of school where he is, or it may be more advisable that this child be promoted even though he be incapable of the work required of such a grade, so that his associates will be nearer his size and age.

(*c*) *Trade Schools.* — Trade schools usually require that the pupil have attained at least the sixth grade. It is frequently found that a child with an I. Q. of 60 or 70 and a mental age of nine or ten does not get beyond the fourth or fifth grade and is therefore barred from entering the ordinary trade school. In accordance with Dr. Fernald's ideas it is very advisable that the public schools, in addition to special classes, should have a trade school for this group. The doctor has definitely shown that pupils in his school with these mental specifications can be taught to be self-supporting and self-sustaining as they grow older, and in fact has demonstrated that one hundred and sixty such boys in 1921 earned in wages $130,000.

(*d*) *Social Supervision.* — It is often found that the family and parents are not aware of their child's mental condition. They do not realize the dangers or comprehend this child's limitations. Through social supervision parents can be advised and directed and the child greatly protected and benefited.

(*e*) *Delinquents.* — Retarded children are often found who show querulousness resistiveness to authority, stubbornness, impulsiveness and anti--social traits; these characteristics, in Dr. Fernald's opinion, often spell later delinquency of a serious nature. Proper direction, advice, and assistance through churches, social agencies, parents, police, and school authorities help out in such situations and are preventive measures to later serious delinquencies.

(*f*) *Medical Attention.* — Perhaps the most important recommendation as a result of the examination and survey of retarded children is advice for medical attention to the defects that are found which can be treated medically or surgically, thus obviating greatly the handicap under which the child is struggling.

To summarize: The retarded child is given protection, a square deal, and early recognition of its condition; the delinquent, training and correction. The child with limited intelligence is taught to his capacity and more than that is not required of him. Thus, the feeble-minded are instructed within their limits, and it is certainly true that the feeble-minded can acquire good habits early as readily as they can acquire bad habits; developed to their capacity they may become productive wage-earners in the community. In addition, it may be added that this survey will help to reveal and make available data upon which can be built the early symptomatology of later psychoses. I speak particularly of Dementia Præcox where the early symptomatology is not at present satisfactorily classified, though it is felt to exist by many psychiatrists, and it is this group of cases which forms about thirty per cent of our institutional population.

There are many other situations in regard to the abnormal child, but, on account of time, I have limited myself to speaking of the hygienic measure which I consider most important.

With regard to mental hygiene for the normal child, I will make a brief résumé of what are at this time considered the more essential considerations in dealing with children and adolescents.

Adjustment. — Adjustment seems to be the word that is commonly used and fits aptly the preventive treatment in most instances. It is needed in the sensitive and strange, peculiar child, as these conditions are not beyond the bounds of what may be called normal. Adjustment means the understanding of many things; it includes environment, capacity, intelligence, feeling, physical condition, habits, instincts, and above all the individual himself. It is certainly true that intelligence in itself is not all important. It is obvious that the most highly intelligent are sometimes the most unsatisfactory associates, and, while very commendable, intelligence alone is not sufficient; feeling or emotional tone is to be considered; and the instincts must be pretty well balanced. Fear pushes the child backward; pugnacity drives him ahead, but an over or under balance of either is bad. Heredity, according to some, means little, to others, much. As the heredity is known and allowed for in the consideration of the capacity of the child, it is really of less importance than some would lead us to believe. The individual must be considered with all facts before us: Race, religion, conflicts, Intelligence Quotients — all of these boiled down and dealt with in reference to the capacity of the individual. Proper training according to the capacity is most important and is needed in all things. It is very often true that parents need training more than the child. With properly equipped parents, home environment is certainly the best training school for children. Training is the most essential element also in making adjustments. When considering the training of children, we have to include many elements under the heading of psychology. We hear much of the conscious, the near-conscious, the subconscious. The most important of our conflicts, however, are in the conscious or near-conscious. To understand the mechanisms of many of the conflicts of children it is certainly not necessary to resort to hypnotism, Freudianism or psychoanalysis; a simpler and more direct method can be used with most satisfactory results.

We find in children as well as in adults that excuses are an indirect method of meeting conflicts. They are certainly methods by which the individual is avoiding or attempting to avoid disagreeable realities and duties — dodging the issue instead of squarely facing the situation. To appreciate these things requires training and experience. The simpler examples of these are the Monday morning headaches of children, their tantrums, even their vomiting attacks (nervous so-called). Mark Twain explains that he told his first lie when he was three days old, — the familiar story of his receiving much attention because he cried on account of a pin in his clothing, and of crying the next day to receive the attention although there was no pin in his clothing. Adults maladjust as children; their condition becomes serious when they develop a so-called neurosis, nervous prostration, invalidism or hysteria.

In order that the training and teaching of children may best be carried on, it is certainly essential that the parent, the teacher, advisor and examiner be *en rapport* with the child, understand him as an individual and teach him the importance and the necessity of meeting realities as they exist. It is just as necessary to remember that the child as well as the adult appreciates success and approbation and that both are very much desired by him. These things properly understood and used are stepping-stones in his efforts for further advancement. Self-reliance should be encouraged, not mollycoddling, and it is important that he appreciates that punishment surely follows misbehavior; physical spanking may be good therapeutics. The child must certainly be taught to appreciate and know that he must accept authority, that if he is to resist, he will become a rebel. Indecisions in the young may be dangerous, as indecision in the adult is dangerous. It is a dividing of mind and a splitting which, continued to a degree, brings about a condition that can be described only as Præcox, and as a Præcox is evidenced.

In a child, interest and attention should be stimulated by allowing him latitude of movement both in play and in his mental work. Try to encourage the child to have an interest in an objective and, in order to obtain the objective, perform necessary though arduous duties. Wish fulfilments by day-dreaming and fantasy accomplished nothing. In themselves, however, they may not be dangerous in so far as they are understood by the one who indulges in them, but when not understood and carried to excess the individual becomes self-centered, abstracted from realities and it is only a degree beyond this to the unreal and a true psychosis.

It is certainly true that teachers should know more of mental hygiene. It is also my belief that the best teachers are needed in the lower instead of the higher grades. The greater the understanding the teacher has of psychology, normal and abnormal, the better she can deal with the individual. I should like to emphasize the point that a teacher is teaching *individuals* in children and the stress should be laid upon this rather than upon geography, arithmetic, spelling, etc. I believe there is strong need in the public schools to-day for the mental hygienist, the social service worker, the psychologist and the psychiatrist.

In what I have said I appreciate that I have given you nothing new but simply a résumé of a part of what is understood to constitute metal hygiene for children, and in doing this I have only touched upon headings which have been dealt with more concretely by numerous workers in this field.

THE RUGGLES STREET NURSERY SCHOOL.

By Abigail A. Eliot,

DIRECTOR.

All of us who have any interest in children see on every side a rapidly growing concern for that part of a child's life which lies between babyhood and school, the so-called pre-school age. Not long ago it was called " The Neglected Age " but no one speaks of it so to-day. Look in any recent issue of " Mother and Child " and you find articles on the pre-school age, from the point of view of bodily health, mental health, psychology and recreation. Examine other publications devoted to health, to social welfare, to education, and you will find that much is being written on the needs and care of the pre-school child. Doctors know that the foundations of bodily health are being laid during these years; psychologists tell us that the unchangeable foundations of character become established at this time; educators are coming to realize that the value of education in later years depends in large measure on the habits of mind acquired between birth and the seventh year.

If all this is true, it is surely worth while to ask what — of a practicable nature — is being done for children of this age. There is the pre-school clinic. It is attached to the well baby clinic and has grown out of it as a result of the conviction that the work of the latter is not effective unless each child is carried through in health to the seventh year. Such clinics are successful in reaching the pre-school age and are established as a wholly valuable part of a plan for public health. To this clinic has been added the newly developed "Habit Clinic" which provides for the mental hygiene of these children, as important a part of their health as bodily hygiene.

The nursery school is another attempt to bring to children of pre-school age the conditions which make for health and right development. It is a school for pre-school children and incidentally for their parents. The Ruggles Street Nursery School in Boston is such a school. What in detail is it? It is an old fashioned square building with an ample yard, part of which is shaded by trees, part open to the direct rays of the life-giving sun. Indoors is a large long room running the length of the house with southern and western exposure. This room is painted in light but warm colors and on the floor is a linoleum. In the windows are flowering bulbs and potted plants, on the walls, fastened low, are bright pictures of subjects interesting to little children. Low tables and chairs, low blackboards fastened to the walls, well filled closets with low shelves, a piano, a fireplace, a smooth strong board, crystals hanging to catch the sun, above all, space and sunlight and air, complete its furnishings. Another smaller room holds in winter a slide which in the other seasons is outdoors. At the back of the house, opening off the large room, are toilet rooms for boys and girls. These contain low sinks with wash bowls, mirrors hung low, hooks low on the walls for towels, wash cloths, tooth brushes, combs, cups, liquid soap in its sanitary container, also low, toilets properly arranged for children's use. Upstairs there are two large airy rooms full of little beds. Each bed is marked with a name and over the foot of each hangs a blanket-bag. One set of the beds can be folded and taken outdoors under the trees.

What do the children, these little children, two and three years old, do here? The school is open five days in the week. The children come between 8.30 and 9.30 in the morning and during that hour play at will with toys taken from certain closets. During this hour, too, a nurse from the Baby Hygiene Association inspects the children for signs of contagious diseases, and she helps us teach them health habits, one of which is gargling with salt and water. It is fun to gargle when you can try to make more noise than the boy next to you. Then comes the morning circle followed by free musical expression, songs, rhythm work and dramatic games.

At ten o'clock we sit down at table for the morning lunch of milk and crackers. The children help arrange the table, bring flowers for it, give out paper napkins, pass the crackers, clear away afterwards and wash the cups. A few minutes in the toilet follows and then a period of comparatively quiet occupations on tables or floor. The occupation material which each child wishes to use he chooses himself from the closet which contains a large variety of things, such as Montessori apparatus, kindergarten materials, chalk, plasticine, hammers and nails, etc. A child may change his occupation if he wishes to, after having made a real effort to use it. At the end of approximately three quarters of an hour, these things are carefully put away by the children and the toys which ensure physical activity are brought out. For another period they run and shout, jump and laugh, slide and play, to their hearts' content. Next comes washing of face and hands and combing of hair, all of which is done by the children themselves, in so far as it is in any way possible for them to do it. It is a pleasure and pride to do these things successfully for yourself. It is extremely unpleasant to have them done to you. Dinner is at twelve and again the children help arrange the table, pass the dinner, clear away afterwards, wipe off the table and sweep up the crumbs on the floor. Then after they have brushed their teeth, they clamber upstairs, take off their shoes, crawl into their blanket-bags and go to sleep. The nap is from one to three o'clock. They wake bright and happy, put on their shoes and go shouting downstairs for a final romp before going home at four.

What are we trying to do for these children?

I think you must have seen, as I have described the school, that we try to provide healthful conditions. We want the school first of all to contribute to the children's bodily health by means of fresh air, sun, sleep, exercise, good food and health habits. In our kitchen is a trained dietitian who plans and provides the dinner. We give the children all the outdoors, all the fresh air and sun we can.

We consider ourselves an educational institution. What are our educational principles? We hardly know. We are trying to find out. One or two things can be said, however. We believe (1) that the physical and mental life of a little child are inseparable; (2) that a child of this age should be given the right environment and within that environment freedom to teach himself. (This does not mean license, for there should be a few wise laws; a child's freedom is of no use to him without law any more than is that of an adult); (3) that at this age self-control can be better learned and habits of body and mind more easily and more firmly established than in later years; (4) that a child learns best by doing everything possible for himself, from caring for his body to inventing his own games.

Socially, what is our influence? The mothers or fathers or big brothers or sisters bring and call for the children. The parents visit the school. Some of the mothers come at regular times to help care for the children. We aim to be a demonstration to the parents of the value of proper physical, mental and moral care of their children. We have a Mothers' Club. We visit in all the homes and know the special difficulties in each family. None of the homes have space for a toddler to run in, few of the mothers have time from washing, cleaning, cooking, mending, in which to take the children outdoors.

"Jackie is the only one of my children who has pink cheeks", Jackie's mother says. Jackie is just three and has been coming to school for a year. He is one of five children whose father is a conscientious, hard-working man. His mother is a smart young woman devoted to her family. The parents pay the fee of 75 cents a week willingly and Jackie is brought to school regularly by his mother. He is in abounding health, he plays with vigor and ability, he sleeps two hours every day, he eats a hearty dinner. When it was suggested to his mother that he should go home now each day for dinner and the nap, his mother said, "But he would never sleep at home in the middle of the day, it is so noisy. Even the little baby does not often get a good nap because she is waked by the noise." And Jackie, who is the first son, and inclined to be spoiled at home, is learning in school to share, to help, to do for himself and at the same time to keep the sunny temper which is naturally his. There are the twins, a delightful pair who, before coming to the school, spent most of their life shut away in a room by themselves. There is the little girl whose mother is worried because of her small appetite at home and the accompanying lack of vitality. She is eating a good dinner at school, rapidly learning to sleep well during the nap time, and forgetting that she wants to be petted. Each of the twenty-five or more enrolled is a special little person with a special and deeply interesting problem in habit training.

The Woman's Education Association, under whose auspices the school is run as an educational experiment, has from the beginning looked upon it as a field for training women in child care — the mothers of the children in the school, the mothers of other children, girls who may some day be mothers or choose work with children as their occupation. To this end a training course has been established which aims to teach child care in all its aspects. It is of course also a training ground for Nursery School Workers.

Nursery Schools originated in England. In 1918, they were made a part of the English public education system. Under public authority there are twenty-four nursery schools in England admitting children as young as two years of age. In the United States there are several experimental nursery schools, notably one in Detroit and one in New York. The subject is being much talked about. Parents at the other end of the social scale, especially those who are highly intelligent and well educated, are demanding nursery schools for their children. We are earnestly endeavoring to find out what a nursery school must be in order to bring to these children of pre-kindergarten age the things which are their due, — health, good habits, a chance to develop, and a wise and beautiful home life.

PERSONALITY STUDY OF ATTENDANTS.

By Clarence A. Bonner, M.D.,

ASSISTANT TO COMMISSIONER, DEPARTMENT OF MENTAL DISEASES.

The mere mention of this almost untouched subject is a little startling. Every phase of hospital work is written about and discussed freely, but this matter, because of its morbid implications and unpleasant associations, is least frequently approached.

Persons suffering from mental disease have always been cared for in accordance with the understanding and opinions which happened to hold sway at any given time. The problem of caring for the insane has not decreased from the time of the earliest known civilization, but we have made great advancement from a humanitarian point of view, as I shall attempt to show.

No person who is at all familiar with hospital duties can deny that this is an important subject, perhaps more fundamentally important than any other phase of the work. The patient himself is the center of the entire system, the center from which various means of treatment, care and support should radiate. The patient's physical comfort has a tremendous bearing upon the success of all our work for him, and in all our efforts to promote his comfort we must depend largely upon the co-operation of the attendant, the one who comes in direct contact with him.

From time to time we read of cases of flagrant abuse in one or another of our State hospitals, usually grossly exaggerated and frequently written to a scare-head point. Abuse of custodial patients figures also in current fiction, and many persons who have no knowledge of the ward machinery of a big institution are led to believe that abuse of inmates by attendants is quite prevalent in our State hospitals. In the face of this wide-spread impression, however, I can state with confidence that abuse is of rare occurence, and by abuse I mean physical violence willfully inflicted upon a patient. It is the purpose in this paper to present figures taken from the records of one of our largest State hospitals, to show how much really occurs, how it is dealt with, and what vigilance is maintained by an efficient corps of officers; I shall then leave it to the reader to decide whether he can rest reasonably sure that his friends are under proper protection.

In this hospital during a period of one year, eight attendants were summarily discharged for abusive treatment of patients. Four others were discharged on suspicion, although the charges against them were not proven. During the year in question the number of persons employed in the capacity of attendant was 495, so the eight attendants who were known to be abusive represent but .018 per cent of the nursing and care-taking force. It is to the credit of our women nurses that all of these employees were men.

It is a source of satisfaction to find that actual abuse is so infrequent, but let no one imagine that this condition would remain unchanged should we relax our care and watchfulness in this matter. It is only by a constant struggle to achieve perfection that we can hope to approach the ideals that will always remain beyond our reach.

Accidents, of course, are sometimes unavoidable. As one prominent physician has put it, the occupants of a State hospital are problems that have come to us because no one deems himself capable of caring for them on the outside. And when hundreds or thousands of these irresponsible individuals are kept under one roof, is it not reasonable to assume that difficulties will arise? A patient's friends are usually willing to overlook an injury which has been inflicted upon him by another patient, because they realize that such occurrences are inevitable. But it is another story, and rightfully so, when a brutal attendant inflicts an injury.

Men who abuse patients fall into one of several groups. *First,* men not inherently brutal, but quick tempered, who, becoming exasperated, forget themselves and retaliate, oftentimes with a certain amount of reasonableness. They are sometimes capable and valuable men, and we cannot but feel that they are entitled to some sympathy. *Secondly,* there is the cowardly bully who considers only how to manage a patient with the least trouble to himself, wholly indifferent to humane methods. Such a man may boast among the other attendants that he has " fixed " a certain patient, and does not expect to have any more trouble with him. *Thirdly,* there is the well disposed but ignorant person who cannot rise above the primitive, almost instinctive, belief that discipline can be maintained only by means of physical retribution. Employees of this type might be likened to unthinking parents who continue to correct a child by corporal punishment after he is old enough to understand other and better modes of correction. *Fourthly,* there is the distinct psychopath, who takes a vicious pleasure in inflicting pain. Fortunately, in this latter class I have never met with but one man whom I believe was so perverted and that was in a hospital in another state.

Other employees might occasionally resort to force in an emergency, but the times when an attendant would be justified in using forcible measures in self-defense are so rare as to be practically negligible. It is a well known fact that most patients are loyal to a kind-hearted attendant, and if a patient attacks him, by a sudden impulse, it is almost certain that the others will come to his aid. Thus the strongest means of self protection for an attendant is to hold the affection of the patients in his charge.

To analyze the causes of abuse is merely to state the problem and we are still confronted by the question, — What are we going to do about it? This problem is of concern, not only to the officers of institutions, but to the community itself. The burden of solving it falls chiefly upon the Medical Officer, and he should have the support and co-operation of all who wish to see the insane cared for humanely.

Study reveals that avoidance of abuse can best be brought about by a careful selection of employees, particularly the men who are placed in charge of a ward. Above all, the head supervisor should be a man of strength of character, fitness and capability.

Some of the men who obtain employment in a hospital are constitutionally unfit for the work, while others may be trained to be valuable men. The hospital is no place for a man who is inherently brutal, whether psychopathic or not. But a man of kindly impulses may always be taught to control the patients by gentle treatment, and the quick-tempered man may acquire a measure of self-control that will make him available for long and valuable service in the hospital.

When the work is outlined for a new employee, the responsibility he bears to the patients must be impressed upon him above anything else, and this should be done by a medical officer gifted with the power of " putting things over ". He should be made to understand that kindness to the insane is his first duty, and this fact may be made doubly impressive by having him sign a form like the following, and also he should be impressed with the fact that he is an integral and valuable member of a public hospital:

> I hereby agree to report immediately any abuse of patients, on the part of attendants or other patients, which shall come to my attention. This will include striking patients, rough or violent handling of them, or swearing at them.
>
> I agree further not to strike, abuse, handle roughly, or swear at any patient while in the service of this hospital.
>
> I agree further that I will abide by the rules and regulations establshed by the authorities of this hospital, a copy of which I have received.
>
> In token of this agreement, I hereby sign this paper, in the presence of a witness.

Nothing gives the conscientious physician employed in a State hospital more concern than to note marks of disfiguration. Every discoloration is a challenge to his innermost sense of humor, and demands a careful and searching examination. The physician who makes a practice of looking thoroughly into each accident, soon finds a rapidly diminishing number of injuries, not only of those due to direct violence but also of those due to quarrels of patients among themselves. A searching inquiry concerning all injuries, even trifing ones, soon raises the morale of the entire ward, and brings it up to the point at which the attendants are literally "on their toes".

It is necessary for the ward physician to know his men. I believe he will find it worth while to take a personal interest in each new employee who comes under his direction. He should let the attendant see that he understands the difficulties involved in dealing with the insane, and should be frankly appreciative when he sees this attendant handle a hard situation well. If he makes a practice of praising good management, he can be kindly critical of poor management without losing the confidence of the attendant, and a sharp reproof will probably be unnecessary. The employee who regards the man to whom he is responsible as his friend will be willing to learn from him and will follow his instructions from personal loyalty. Employees of the type that we have to deal with are very susceptible to personal influence, either good or detrimental; so it is in our power, up to a certain point, to make them what we will. The physician's daily rounds offer an opportunity to make his influence felt. A few moments of friendly conversation with the attendant will be time well spent, and the little reminder of the paramount duty of kindness may be given casually, not naggingly.

A complete course of lectures to attendants, which is now in operation in our State, is of great value. The course includes the history of insanity, the care through the centuries, and the development of our present day conceptions. This is for the purpose of helping the attendant to a better understanding of his duties and better control of his own impulses when he has to deal with excited or disorderly patients.

A study of accident blanks for one year shows interesting results. The usual form of blank was used, which included the report of the ward attendant of any accident or injury, next the supervisor's report and thirdly the physician's report, describing fully the injury and fixing the responsibility for the accident or injury, and as to whether or no there was any responsibility attached, all the reports coming in on one sheet, and, as soon as completed, the relatives of the injured patient were notified immediately, no matter how trivial the injury might be. This analysis has been placed in convenient form and tabulated as to Ward, Diagnosis, Nature of Injury, whether or not an employee was implicated, whether it was due to an accident or a quarrel, one patient with another, or self-inflicted. During this year there were 680 accident blanks reported upon. Below are the figures in tabulated form: —

PSYCHOSIS.	Whole Figures.		
Dementia præcox	323	Injuries according to circumstances:	
Manic depressive	89	Patients quarrelling (per cent)	49
Unclassified	52	Accidents (per cent)	34
Paresis and cerebrospinal syphilis	39	Self inflicted (per cent)	14
Senile dementia	36	Cause unknown (per cent)	3
Psychosis with epilepsy	35	Abusive employees to total quota (1921), 8–495 (per cent)	.018
Mental deficiency with psychosis	26		
Psychosis with cerebral arteriosclerosis	23	Accidents occurring on female wards (per cent)	72
Alcoholic conditions	17		
Paranoid condition	15	Injuries tabulated according to location in whole numbers:	
Involution melancholia	14		
Psychopathic personality	7	Head*	420
Psycho-neurosis	2	Torso	48
Psychosis with somatic disease	2	Upper extremities	146
		Lower extremities	38
Total	680	No injury	28
		Total	680

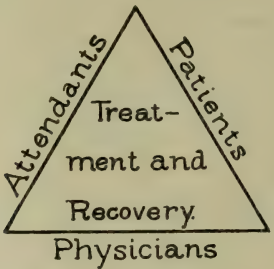
* 40 per cent injuries to or in tissues about the eyes.

SUMMARY.

The value of intelligent and kindly attendants relative to the recovery of patients is of the greatest import. Unfortunately, for one reason or another, many people do not realize the care and precautions that are taken to make our hospitals really hospitals and to place paramount the kindest protection to our patients. In one year 495 individuals appear on the payrolls in direct care of the patients and of this number but eight actually forgot themselves to the point where a patient was improperly treated. The percentage is .018, a wonderful record when the thousand and one irritating occasions are given consideration. Only by constant vigilance and earnest influence is this record possible.

Men who abuse patients can be grouped; the value of this grouping lies in continued work among the lines of determining their fitness before employing, perhaps in the nature of a questionnaire which will show in black and white what a certain man would do under a given situation. More work on this point is to be done, believing that it may help in eliminating undesirables. Self defence is only rarely a justifiable excuse. Patients soon learn to reciprocate with a kindly employee and are very loyal. An attendant should be made to realize his part in the work of the institution and that he will be treated with just exactly as much dignity as his conduct and capability command.

The co-operative triangle of physicians, attendants and patients is the unit by which the accomplishments of a hospital are known. The stimulating influence must, however, emanate from the superintendent's office and issue in the form of continuous propaganda.



I wish to thank Dr. Wm. A. Bryan, Superintendent of the Worcester State Hospital, for the use of records in preparing this article and for his unfailing encouragement, which fosters a stimulation and loyalty so necessary in the conduct of a large institution.

EDITORIAL.

The Department desires to call the attention of social and other agencies to the facilities offered by the Out-Patient Department of the Boston Psychopathic Hospital. The clinic stands ready to give consultation service in any phase of the problem of mental and nervous disease, and for suitable cases is equipped to carry on intensive study and treatment. There is a permanent medical staff supplemented by volunteer workers and resident internes. Psychological and Social Service departments work in co-operation with the physicians. Reports with recommendations are sent to agencies or physicians by whom the patients are referred. When sending cases for consultation, it is highly desirable that a background of social and medical history be furnished to save time and duplication of effort. Outlines for the type of history desired will be furnished on request.

There are three major problems in which the staff are at present especially interested. First, nervousness and conduct disorders of childhood; second, the psychoneuroses or so called functional nervous disorders; and third, the group of adolescents of both sexes whose difficulties of social adaptation are connected with emotional conflicts and various defects in personality development. In all of these groups the problem is much larger than that of the individual patient or situation, and it is hoped that research can be carried on and data accumulated which will be of general and permanent value. Frequently social agencies are mainly interested in one consultation visit. To establish appropriate contact with patients for personality study takes time. Often only a formal survey can be made at a first interview, perhaps quite sterile in its results. When possible, certain of these cases should be returned to the clinic, if requested by the physician, for more detailed study. Efforts are made to have such return visits arranged by appointment and thereby avoid long delays.

There continues to be considerable prejudice and misunderstanding among the laity and others concerning the Psychopathic Out-Patient department. This feeling is borrowed from the old attitude that psychopathic hospitals are mainly retreats for the hopelessly insane. Physicians and social workers are urged to do what they can to offset this attitude among their patients. Comparatively few "insane" patients find their way to the Psychopathic Out-Patient Department. It serves exactly the function that is performed by the private neuro-psychiatrist and no more stigma is attached to visiting the former than calling at the office of the latter.

HOSPITAL NOTES.

Belchertown State School.

This School, ultimately designed to care for 1,800 children of both sexes, has, completed, at the present time, a Boys' Custodial and a Dormitory Building; a Girls' Custodial and a Dormitory Building and a Farm Colony. The capacity of the institution, at the present time, is 290 boys and 250 girls, although the population is 315. We expect an early transfer of 100 more girls from the Wrentham State School.

Fourteen buildings, out of the proposed fifty, have been completed or are under process of completion at the present time. Two more Girls' Dormitories will be completed during the present year, adding to our capacity 210 beds. The ward buildings are modelled on the Wrentham plan and provide the children with splendidly heated, lighted and ventilated buildings.

At the present time the quota of employees is 100, although we have numerous vacancies, particularly on the staff.

We are operating school classes for both boys and girls. We hope to secure the services of a gymnastic teacher in June.

While the shortage of employees is interfering somewhat with the patients' work around the institution, we are doing much to clean up and improve the grounds.

Boston Psychopathic Hospital.

There are a number of workers who have taken advantage of the opportunities available in the Social Service Department and in the Nursing Department. Among these are Miss Margaret F. Hitchcock, who is connected with the Providence District Nursing Association. Miss Hitchcock spent two months studying at the Boston Psychopathic Hospital, and she has now assumed the position of Mental Hygiene nurse of the Providence District Nursing Association. Miss Paciencia E. Cornista, of the Philippine Islands, is taking a graduate course in nursing. She is in this Country under the auspices of the Rockefeller Foundation.

In addition to the ordinary Staff Conferences, special Out-Patient Conferences have been held on Mondays and Wednesdays from 11.30 to 12 o'clock.

During the past year the following Societies have held some of their meetings at the Boston Psychopathic Hospital:

The Boston Society of Psychiatry and Neurology held two of its meetings at the Boston Psychopathic Hospital.
New England Group of Psychologists.
The American Psychological Association held one of its meetings at the Boston Psychopathic Hospital in a joint session with the Psychological Section of the A. A. A. S. December 29, 1922.

GARDNER STATE COLONY.

A new hospital building, under construction during the past nine months, is nearing completion and will soon be ready for occupancy. This will house seventy sick and surgical cases.

A laundry building, under construction since last year, will be ready for use in about one month. This is of sufficient size to house the laundry and will give a large space for a work shop for the Chief Engineer and Electrician, inasmuch as the space at the Power House is insufficient for this. This building is being constructed by our own labor.

The ground is now being broken for changes in the Domestic Building for which an appropriation was made by the present Legislature.

WRENTHAM STATE SCHOOL.

Two new buildings have been opened at Wrentham within a few months — the Industrial Building for girls in October, 1922, and the Assembly Hall in February, 1923.

ITEMS OF INTEREST.

A study of the foreign immigration to the United States with special reference to features bearing upon the subject of mental health conservation is being undertaken by the United States Public Health Service. These studies are part of the research activities of that Service and bear a relation to other inquiries in the field of mental hygiene. The Service is interested in the subject of foreign immigration because of its national character and its possible effect upon the health of the general population of the United States.

Aside from a consideration of the mental health of the newly arrived aliens, mental hygiene, when applied to the subject of foreign immigration, bears a definite relation to the mental welfare of future Americans. The Federal Government exercises supervision over immigration to the United States, and the Service, being a governmental agency, is charged by law with certain functions in this regard, therefore, since 1892, officers of the Service have been required to examine arriving aliens when presented for that purpose. They have no part in the administration of the immigration laws except the physical and mental examination of the aliens.

The diseases or conditions involving the interest of mental hygiene workers are the so-called "insanities"; feeble-mindedness, epilepsy, and the allied neurotic and neurological conditions, the causes of which are frequently rooted in heredity, environmental maladjustment, or adverse social influences. Institutional provisions for these mentally disordered persons have been comparatively few and inadequate, but gradually the institutional workers have come to realize the need of reaching into the communities to co-operate in a wider field of preventive effort. Their co-operate effort has resulted in a better understanding of the relationship existing between mental disorders and the problems of dependency, crime, reformation and education.

It is being more and more generally recognized that community sources of mental disease and mental defect must be uprooted; that underlying causes must be sought by study and investigation; that the mental patient must have early and adequate treatment, and that measures must be adopted to render less threatening the menace of increase in the number of mentally disordered persons. The latter bears upon the subject of foreign immigration and its relation to the exclusion of the mentally unfit alien as well as those who possess potentialities for the development of mental disease. It also involves a consideration of the problem of mental disease and defects which are masked under those activities that are concerned with problems of dependency, crime, and other social ills.

Records of 100 years of foreign immigration to this country are replete with references to the mentally diseased, the criminal, and the pauper who have always been found among the new arrivals. Records of public institutions that care for the social units of a community have always been concerned with the care of foreign-born persons whose presence complicated their problems and added to the cost of maintaining such institutions. Much of the objection that has been raised against foreign immigration is based upon the fact that a proportion of all immigration has found its way to public institutions.

A study is being made of the factors which influence or are productive of these situations. Investigations are being conducted relative to the number of foreign-born persons who are inmates of public institutions as compared with native-born inmates. These, in turn, involve a study of the question of the uprooting of individuals, their transplantation into a new environment, and the relation of this to the incidence and cause of mental disease among immigrants.

The State of Maryland has discontinued the use of the State Lunacy Commission, and adopted the name of "Board of Mental Hygiene"; Dr. A. P. Herrin is commissioner, the other members being: Q. H. Young, M.D.; George H. Hawking, M.D.; Henry J. Berkeley, M.D.; J. Albert Chatard, M.D.; H Finley French, and Margaret H. Brogden.

EPILEPSY.

From a survey being carried out here in Boston, with the assistance of the nurses from the Community Health Association, it has been estimated that about one child in every fifteen has one or more convulsions during the first three years of life.

In a paper read at the meeting of the Research Association, held in New York City in December, 1922, a preliminary report was made by Dr. D. A. Thom on the "Relation between Infantile Convulsions and the Chronic Convulsive Disorders of Later Life." It was pointed out that infantile convulsions should be treated with more respect, and that the outcome of a large percentage of the cases which had infantile convulsions prior to the fourth year was an unhappy one, many dying from convulsions in later life, others becoming feeble-minded, and the third group developing a chronic convulsive disorder, so-called epilepsy. The percentage of cases correlated very closely with the cases at the Monson State Hospital for Epileptics which had their first convulsion prior to the fourth year. In both groups, it approximated fifty per cent.

Dr George K. Pratt, Director of the Massachusetts Society for Mental Hygiene has been giving a course of lectures at two of the large department stores, on the subject of Mental Hygiene.

It is of interest to know that industry is utilizing the psychiatrist in a very practical way.

Attention is called to the new Mental Hygiene Bulletin, which is being published by the National Committee for Mental Hygiene. It is full of short, snappy, interesting comments relating to the activities in the field of mental hygiene. It is published twice a month, and costs but twenty-five cents per year. The National Committee for Mental Hygiene is located at 370 Seventh Avenue, New York City.

The American Psychiatric Society will meet this year from June 19 to June 22. That part of the program which pertains to the development of clinics throughout the state, under the new Division of Mental Hygiene, is well under way.

Clinics are being held in Brockton, under the direction of Dr. Albert C. Thomas; in Gardner, under the direction of Dr. Chas. E. Thompson; in New Bedford, under the direction of Dr. R. A. Greene, and in Worcester, under the direction of Dr. William A. Bryan.

BOOK REVIEWS.

Case Study Possibilities,* by Ada Eliot Sheffield.

Just at this particular stage in the development of mental hygiene, when we find the general public reaching out, making demands, and expecting results which are frequently well without the limitations of our present-day knowledge, it is not surprising to find that in an effort to meet these requirements the quality of work is sacrificed for the quantity. We also seek excuses for the hurried and superficial character of our work in the extensiveness of our labors. It is the hours worked and the cases interviewed by which we justify our existence. It is therefore gratifying to find here an author who is not rushing madly on in the weather-beaten path of routine, but who is taking time to consider and develop the possibilities that exist in the task at hand.

Ada Eliot Sheffield has presented to all those interested in the social welfare of mankind a real contribution. Within the limited space of sixty-four pages, she has dealt with social case work and its relation to the individual and society in a manner clear and concise. She has drawn from her experience the most valuable generalizations, and applied them to the individual with a most skillful technique.

After dscussing what the author terms the "tentative rationale of analysis", in which she deals with the client's normal endowment and his social environment, she states frankly and unhesitatingly that the social point of view as entertained by the social worker "differs from that of most medical men, psychiatrists included, and from that of most practising psychologists. These specialists, from the very nature of their training and their daily work, tend to take an anatomic view of the individual, to think of him more as a self-sufficient unit impinged upon by environmental forces, than as an integral part of his social setting."

Those who spend much time in clinical work, regardless of its specific character, and who have been fortunate enough to have the assistance of a well trained social worker, appreciate the fact that such a worker, by virtue of her social technique, is in a position to make a contribution which is invaluable both in diagnosis and treatment. It is of interest to us who are approaching many of our problems from a psychiatric point of view, to know that the author permeates her entire discussion with the necessity of studying the personality of the client. There is a keen appreciation of the necessity of making the same approach to medical social case work as we have been laboring to introduce into the study of psychiatric cases. This will eventually mean that all social workers will be required to study the individual in the home, in the shop, at play, and at such times and places as the opportunity presents, and render to the psychiatrist invaluable information obtained through these environmental examinations.

The social worker has a unique opportunity to contribute to the problem of sociology. The author states "as normal psychology has profited from the study of exaggerated mental states, so may sociology profit from the study of aberrations and failures in social adjustments."

Each and every page has at least one paragraph worthy of quoting, if time and space permitted. The publication deserves reading by every one interested in social problems, and should stimulate more intensive study in case work, which in turn should do much to establish the social worker on the professional plane to which she is entitled.

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* Courtesy Journal of Mental Hygiene, New York.

Practical Talks on the Care of Children,* by Mary E. Bailey, R.N.

The author's ambition to write a book depicting the "safest and sanest types of physicians, nurses and teachers in a manner so clear and concrete that the least experienced might find them practical" is indeed a task worthy of the effort. Notwithstanding the fact that the book is lacking in what might be termed a scientific trend of thought, and that many of the statements made therein might well be questioned even by the inexperienced, it will undoubtedly achieve its purpose in carrying a message where it will do much good. There are several chapters which deal with habit formation, and the author reveals more than ordinary interest in the mental life of the child.

In dealing with the subjects of sleep, feeding and elimination, Miss Bailey makes it clear that habit is of paramount importance in initiating the proper physiological stimuli necessary to the health of the child.

Chapters thirty-eight, thirty-nine and forty have to do almost entirely with the mental reactions of the child's life, and under the heading of "Fears in Childhood", there are some very excellent examples of phobias that had their origin in rather commonplace situations to which undue emotion had been attached in early life. The author also lays stress on the "mental prophylaxis" necessary to prevent the "fear psychoses".

The author is perhaps a bit optimistic when she states that "unless these fears and phobias have been overcome, they can only be dispersed by the resources of the good neurologist", that is, they are entirely curable by modern psychotherapy. Quite aptly Miss Bailey says, and undoubtedly it is true, that "so much often attributed to inheritance is the result of environment." She leaves no doubt in the mind of the reader that the over-solicitous parent who injudiciously indulges the child in excessive petting, or the cold, forbidding parent who denies the child the natural outlet for his affections and emotions are both making their contribution to a personality which is very apt to be twisted and warped.

The chapter on the child's activity may be summed up in the author's own words, "Do not attempt to crush it, cultivate it."

This book will be found most interesting and profitable to the mother and the nurse. There is but little to recommend it to the educator or social worker.

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* Courtesy Journal of Mental Hygiene, New York.

Volume VII* Double Number Nos. 2 and 3

BULLETIN

OF THE

MASSACHUSETTS DEPARTMENT OF MENTAL DISEASES

(PUBLISHED QUARTERLY)

Edited under the Provisions of Section 11, Chapter 123,
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WALTER E. FERNALD, M.D.
GEORGE M. KLINE, M.D.
DOUGLAS A. THOM, M.D.

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FOREWORD

The article presented herewith was read by Professor Wilmanns at a recent session of the Southwestern German Psychiatric Association at Heidelberg, and was one of the most interesting contributions to the symposium on the subject of Schizophrenia. The proceedings of the meeting were published in full in Vol. 78 of the Zeitschrift für die gesamte Neurologie und Psychiatrie. We feel indebted to Dr. James V. May for the translation of this exhaustive, and at the same time impartial, review of the more recent contributions to our knowledge of dementia praecox.

Boston, Mass., August 22, 1923.

SCHIZOPHRENIA.*

By Dr. KARL WILMANNS,

DIRECTOR OF THE PSYCHIATRIC CLINIC, UNIVERSITY OF HEIDELBERG.

Translated by Dr. James V. May, Superintendent, Boston State Hospital.

GENTLEMEN: — As the directors of our association have chosen schizophrenia as the subject of this year's meeting, it becomes my duty to present, in the form of a comprehensive statement, a review of the development of the Dementia Præcox or Schizophrenia theory. The history of dementia præcox is, however, the history of psychiatry during the last thirty years. I can, for that reason, show the development of our present conceptions only in the broadest outlines and must in advance ask your indulgence if I refer to many well-known facts and perhaps hardly touch upon essential problems. In resorting to this privilege I assume that the theme will be made the subject of detailed treatment by one of the other speakers.

I.

When Kahlbaum and Hecker, in their efforts to establish the differentiation of disease entities, proposed Katatonia and Hebephrenia as such, their work received little consideration. Even Kraepelin rejected the new doctrine at first. He did refer in a few words to Hecker's Hebephrenia in the general part of his first two editions (1883 and 1887). Kahlbaum's Katatonia, however, received no consideration at first. Even in 1887 the presentation of Katatonia as a definite disease picture was altogether rejected as an unsuccessful experiment. Katatonic conditions could appear in Melancholia Attonita, in ecstatic Wahnsinn and in Katatonic Verrücktheit, which are "in their development, course and prognosis very variable disease forms". To these, Katatonic Wahnsinn was added in the third edition. Here in Heidelberg followed the decided variations in Kraepelin's views which were expressed in the fourth edition in 1893. It is true that Verrücktheit and Wahnsinn, with their numerous varieties, covered a wide field in their presentation. Near them appeared the special disease pictures, the psychic degenerative processes, dementia præcox in its severe form, hebephrenia, katatonia, and dementia paranoides, in all of which "the unusually rapid development of a permanent state of enfeeblement is common". The fifth edition in 1896 brought further developments in the conception of dementia præcox: Wahnsinn disappeared as a special disease form, Verrücktheit became narrowly limited in favor of dementia præcox, katatonia and dementia paranoides, which were assigned by this time, with myxoedematous insanity and cretinism as deteriorating processes, to the diseases of metabolism. The suggestion already made "that many other clinical pictures, particularly certain groups of Paranoia, should be included in the deteriorative processes" had already given a hint as to the further development of Kraepelin's views. In fact, the sixth edition in 1899 with its establishment of manic-depressive insanity brought a further limitation of Verrücktheit and the elaboration of dementia præcox with its hebephrenic, katatonic and paranoid subforms, which also appeared again in the seventh edition in 1904. It looked like a concession to the views of other investigators when the last edition assigned a special place to certain paranoid forms as paraphrenia, which was included with dementia præcox in the endogenous deteriorating processes. Why our clinic did not join in this change of front is to be related.

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* Zeitschrift für die gesamte Neurologie und Psychiatrie, Vol. 78, Nos. 4 and 5, Sept. 23, 1922. Several footnotes and 251 references to the literature of this subject have been omitted.

Only one who is familiar with the development of Kraepelin's views in the eight editions of his textbook could appreciate what a mass of work was necessary in order to lay the clinical foundation on which the later psychiater could build. Only a man with Kraepelin's zeal and optimism in research could, uninfluenced by all attacks, undaunted by errors, strive constantly towards a goal which was generally looked upon as unattainable. In fact, the result of this endless labor is probably not what Kraepelin had in mind in the beginning of his research. He did not succeed in the separation of the endogenous mental diseases into well-defined disease entities, but he was successful in the division into two groups well characterized as to form and course — manic-depressive insanity and dementia præcox.

The development of the dementia præcox theory has finally led to its including the greater part of the simple mental disturbances. When Kraepelin's conception was brought forward it was a disease of adolescence which led rapidly to a permanent mental weakness. Now the cases include all ages of life from childhood to beginning senility, every known symptom-complex can leave its stamp on the disease temporarily or for a prolonged period, and its outcome ranges in limit from recovery to a severe destruction of the personality. These facts were already advanced as a hypothesis by Kraepelin in his sixth edition, in which dementia præcox was conceived not as a disease entity, but a group of outwardly similar mental disturbances. He has never since failed to attempt through new arrangements, separations and comparisons to differentiate smaller clinical entities from this main grouping. To these efforts we owe particularly the description of the presenile delusions of persecution and the hallucinatory weakmindedness of the alcoholic. They are, however, not fully recognized as independent disease pictures by other investigators and have not at any rate led to a considerable limitation of the comprehensive conception of dementia præcox.

The possibility on clinical grounds of removing the disease entity dementia præcox from the group of diseases included under this name seems exhausted. That symptoms similar to those of dementia præcox and not to be differentiated from them appear in other diseases is accepted by Kraepelin and also by us. Even within the domain of gross organic brain diseases, cerebral arteriosclerosis, progressive paralysis, brain syphilis, Korsakoff's alcoholic psychosis, etc., symptom pictures may develop as an expression of cerebral processes which are not to be differentiated from certain paranoid forms of dementia præcox. When we do succeed in separating these conditions from it, it is on the basis of certain fundamental mental symptoms and above all by the accompanying characteristic physical signs. Lacking these there is no possibility of differentiating symptomatically similar diseases from dementia præcox. The hope, nevertheless, that by means of newer anatomical or serological methods we shall be placed in such a position is at present still very uncertain.

In spite of all that, the separation of the endogenous mental disturbances into two groups is probably the greatest advance which has been made in clinical psychiatry. Granting that the dementia præcox of Kraepelin is a group of diseases which are held together only through certain superficial similarities in their manifestations, their nucleus is one disease entity. We are forced to this conception by the results of the psychiatric investigation of families. On investigating the symptoms and the course of cases in a dementia præcox family we sometimes discover a surprising similarity but more often an extraordinary dissimilarity. Hebephrenic, katatonic and paranoid forms, either with gradual or stormy courses, with a quick termination in weakened states and with favorable courses, are mixed together in manifold ways, but demonstrate convincingly their clinical identity. Genealogical researches have prevented our following Kraepelin's efforts to separate paraphrenia from the rest of dementia præcox as an independent group.

II.

Kraepelin always earnestly endeavored to make other scientific aids contributory to psychiatry if they promised any results to the clinic. Clinical research in its narrowest sense, the study of disease processes, always stood in the foreground of his own interests. His last efforts were directed to the collection of a large number of cases, followed for years, to compare them with each other, to combine them in orders and groups, his goal, the hope of reaching the establishment of disease entities. It is obvious that by this concentration on the great, the interest for the small, the special case, the symptom, the content of the psychosis must be kept in the background.

Here Bleuler stepped in and pointed out a new path. The object which Kraepelin had in view, the differentiation of nosological entities within dementia præcox, in Bleuler's work was just the opposite. He also assumes that schizophrenia embraces other diseases in a narrower sense — "that probably several less common disease pictures produce symptoms — certain mild organic disturbances, some of the alcoholic intoxications, various types of auto-intoxication or infection — which with our present knowledge cannot be differentiated from schizophrenia". He contents himself, however, with this knowledge and leaves it to the future to solve these problems. For the present with Bleuler all diseases which present the fundamental disease picture which is considered characteristic of schizophrenia, is schizophrenia. He not only does not recognize the independence of the disease pictures already mentioned, — the presenile delusions of persecution, alcoholic weakmindedness, etc., but denies the occurrence of schizophrenialike phases in manic-depressive insanity, doubts the justification of Birnbaum's conception of the delusion elaboration of degenerates, thinks that alcoholic paranoia should be considered as schizophrenia precipitated by alcoholism, is doubtful as to the schizophrenialike psychoses associated with brain injuries, intoxication and infections, and is inclined to assume in all of these cases combinations of schizophrenia with other psychoses or the precipitation of schizophrenia through mental or physical traumata. Then according to Bleuler the basic symptoms of schizophrenia show all transitions to normal mental processes and extend much further than Kraepelin's dementia præcox, into the nonpsychotic mental life, into the psychopathic, the abnormal and the normal personalities. According to Bleuler's views the latent schizophrenias with few pronounced symptoms are much more numerous than the manifest. Indeed by no one can latent schizophrenia be excluded any more than a latent pulmonary tuberculosis.

Bleuler's object, on the contrary, was to produce a psychology of dementia præcox. There were efforts made to define the psychological essentials of dementia præcox before Bleuler. Bleuler, however, was the first who, relying on the viewpoints of Jung, undertook the venture of tracing the multiple manifestations of schizophrenic psychological mental life back to certain fundamental disturbances.

Bleuler differentiated between the primary and secondary symptoms of schizophrenia. The former are "immediate mental manifestations of an organic process", the latter "in part psychic functions under changed conditions, in part the result of a more or less unsuccessful or even a successful attempt at an adjustment to the primary disturbance". The primary symptoms are essential manifestations of the disease, the secondary may be absent or variable without at the same time affecting the disease process. Primary symptoms are above all a part of the association disturbance, stuporous states, depressive and manic attacks, the disposition to hallucinations, certain tendencies to stereotypies and definite katatonic symptoms, repeated katatonic attacks, certain vasomotor anomalies, idiomuscular excitability, etc. All other symptoms are secondary — disturbances of thought, of affect, autismus, ambivalence, falsifications of reality (delusions, hallucinations, etc.), schizophrenic deterioration, in addition to the majority of katatonic symptoms, stupor, negativism, katalepsy, mannerisms, stereotypies, etc. All secondary manifestations are in part derived from the primary schizophrenic association disturbance and are in part explainable on the basis of the Freudian theories. Definite delusional and hallucinatory contents are accordingly not only complex reactions, but katatonic states as well, in their narrower sense, are dependent on complexes. "Schnauzkrampf", for example, could in the majority of cases be analyzed as an "expression of contempt for the surroundings through a greater satisfaction with oneself". That Bleuler in every case finds sexual complexes, sometimes alone, sometimes associated with others, he holds in common with other psychoanalysts. The interpretation of a greater part of the content of delusional ideas, hallucinations and dreams as sexual symbols is consistent: swords, daggers, knives, spears, sausages, candles, sticks, snakes, horses, bulls, dogs, cats, elephants, are all sexual symptoms. Murder, war, duels, fires, being burned, etc., are symbols of cohabitation.

Bleuler's teachings are derived, therefore, from materials from two very different sources, association psychology and Freud's psychoanalysis. The attitude of the individual towards these psychological mechanisms will depend upon how far he goes in supporting Bleuler's theories. The position taken independently by Gruble later is only in accordance with the psychoanalytic view of schizophrenia as described.

Moreover, those who are not followers of Freud, will not deny the tremendous influence which he has exercised on our psychiatric thought. If we now endeavor to delve much deeper into the mental life of our patients, its content presenting an entirely different significance, then Freud has materially contributed to this development. Moreover, he who rejects Freud's teachings must admit that there is much food for thought. It will be conceded by all critics that Freud has made known to us very significant mental processes, that he has given us an understanding of the significance of the "subconscious", the repression of unpleasant events, the mechanism of emotional complexes as well as many others. That these doctrines are of importance not only in the normal and neurotic but also in the schizophrenic mental life, is to be expected.

Our clinic does not, therefore, reject Freud in principle but is earnestly endeavoring to follow up his teachings and those of his pupils to determine their validity. As a matter of fact, it is often possible in a measure to show the plausibility of one symptom or another, some senseless content, on the ground of Freud's teachings. More than that, we have not been able to accomplish, in spite of our endeavor to bring clearness and coherence to the unexplainable conduct of our patients. The analyses of schizophrenia by Jung, Maeder, Abraham and many others, all so convincing formerly, and Bleuler's efforts to trace back not only the delusions and hallucinations but also the conduct and motor disorders to complexes, have also seemed to us in a considerable part to be farfetched or entirely erroneous. We do not deny that some complexes can set in motion remarkable conduct or motor disturbances. Schüle has already occasionally referred to "plastic types of delusions" in taking into account certain carefully interpreted observations. When we observe that a patient troubled with sexual sensations one day assumed the position of the Venus de Medici and remained in this position for years it is obvious that this is a defensive posture attributable to some sexual complex. That does not mean that all stereotyped attitudes, circumscribed contractures and mannerisms must have the same meaning. Bleuler's mistake is the mistake of Freud, the view that fundamentally everything psychic has a determined significance. Bleuler goes still farther, in my opinion, in attempting to explain organic and neurological mechanisms by Freudian hypotheses.

Moreover, those who are not able to agree with Bleuler's theories must acknowledge that his works have been a source of constant stimulation. That is in part to be attributed to the peculiar nature of the cases which he made the subject of his observations. Kraepelin and his select school directed their attention almost exclusively in the clinics to the admission of recent cases; Bleuler could only turn energetically to the terminal states which were only exceptionally seen in the German clinics. Of the recent cases he could tell us little that was new, for, in spite of his efforts to trace the acute and chronic schizophrenic condition to a common fundamental disturbance, there remain in my mind grave doubts. Bleuler gives us a richer abundance of fine observations out of the multiplicity of the hitherto scarcely investigated end-states. His expression of views regarding schizophrenic dementia, which is not dementia at all, were very clarifying in spite of all theorizations; his conception of autism, ambivalence, "der doppelten Registrierung", and many others, are happy inspirations. The impressive reference to the socalled latent schizophrenia, as Bleuler conceived the schizophrenic constitution recognized by Kraepelin and described particularly by Berge, has also been profitable to those who have not been able to agree to the theory of the fundamental impossibility of differentiating between the sound and schizophrenic mental life. The separation of schizophrenic symptoms into primary and secondary, those which are the immediate manifestation of organic processes, and those which develop as reactions of an organically changed mental life to environment, fate, experience, desires and fears, was a profitable thought but grave doubts may remain as to whether Bleuler has correctly defined the boundary between the two symptom groups.

III.

Kraepelin's object, the establishment of disease entities, directed his attention, to begin with, to the course of the disturbance: so far as the individual case excited interest his observations were directed overwhelmingly to the form, to the motor disturbances, disorders of expression and speech, and less to content. For Bleuler, on the contrary, the content — the delusion, the hallucination, the content of the motor or conduct disorder — was the essential object of his observation. The utilization of the Freudian mental mechanisms furnished the foundation for his psychology of schizophrenia. The reaction to Kraepelin's teachings must be a deeper knowledge of psychology, to Bleuler's, a liberation from narrowing theories and psychoanalytic prejudices.

At this juncture Jaspers contributed his "Husserl" phenomenological views on psychopathology. His proposal was that we break with the somatic, the psychological, the preconceived picture, etc., approach the patient without prejudice, and above all clearly represent the individual qualities and conditions as they appear in the general stream of mental life, circumscribe them as sharply as possible, differentiate, describe and definitely designate them. Thus Jaspers has made anomalies of perception, sense deception, the primary delusional life, etc., the subject of phenomenological observation and has taught us to know a fullness of the elements of mental life which has not been described heretofore in that clearness, sharpness and directness. This distinct representation and clear, intelligent determination of actual experiences furnished the foundation for an investigation of mental associations. Jaspers differentiated sharply between the comprehensible and the causal associations, depending upon whether they develop genetically one from the other, or one causes the other. Comprehensible (understandable) associations have long been known by psychiatrists. We understand, for instance, the reactions of certain personalities to certain events, such as the development of "querulent" delusions under the influence of some injustice suffered. Jaspers has obtained recognition for the first comprehensible psychology as a scientific method and laid a foundation for an intelligent psychopathology. It is obvious that these viewpoints must exercise a lasting influence on the development of our knowledge of schizophrenia.

IV.

The conviction that Kraepelin's clinical method of procedure would not make a differentiation of the disease entities within schizophrenia possible has more and more gained ground under the influence of the teachings of Bleuler and Jaspers and the criticism of Hoches. With the constant comparing and contrasting of the various forms and courses, with the shifting of the atypical case now to this, now to that group, one did not come nearer the goal. A general discouragement was the result: even when one accepted schizophrenia in its narrowest conception, having in mind only the typical cases, he was confronted with a confusing multiplicity of manifestations and no possibility of arriving at the causes of the great diversity shown in the symptoms and course. Our positive knowledge as to the influence of internal and external factors on the moulding of schizophrenia limited itself to a very few facts. It was known, for instance, that intelligence, character and culture exercise a greater influence in schizophrenia than in paralysis and that a well developed personality has richer and deeper emotional experiences than those of a simple day laborer. It was known, also, that the content of the psychosis was to a marked degree determined by the former life and experience of the patient, that emotional experiences particularly could give origin to the development of comprehensible associations and that the environment in which the disease develops often lends a special coloring to it. Thus it has been observed, for instance, that old schizophrenic vagabonds very frequently retain a conduct free from eccentricities and mannerisms, a certain natural accessibility, a need for activity and for an exchange of ideas; that, on the other hand, old cases of schizophrenia, inmates of penal institutions, persistently remain suspicious, resistive and irritable, with aggressive tendencies; that prolonged isolation often breeds an animal brutality and depravity in the patients such as is rarely observed in more liberal forms of treatment; that in institutions with extensive and well conducted occupational employment, mannerisms, stereotypies and catatonic manifestations seldom develop, while in the others the earlier occurrence of autism is encouraged. Indeed those who have observed the morbid processes of schizophrenics, free from prejudice, cannot escape the fact that a change in surroundings under certain circumstances may exercise a profound influence upon them, the actively hallucinated by removal to another department at least temporarily losing their hallucinations, the stuporous cases by a return to home surroundings throwing off their blocking and becoming able to talk and to work. These questions had been given no detailed consideration; one saw many tendencies in that direction but no elaborate, above all no fundamental, differentiation between constitution, personality, environment, experience and form of the psychosis. This was brought about first by the influence of Bleuler and Jaspers and above all, by Kretschmer and Birnbaum.

Kretschmer attempted to intelligently establish a group of well characterized paranoid forms, the sensitive delusions of reference which he assigned to the psychopathic reactive disorders as an independent disease group, derived from the mutual association of a definite character, definite environmental influence and a definite experience. Jaspers, who, moreover, recognizes the disease picture to be of lasting importance to clinical psychiatry, makes the criticism that while we can explain the content, affect, etc., by the character, environment and experience, the mechanism of the paranoid states still remains psychologically unexplained. That these obscure conditions are to be studied on biological grounds and that the biological constitution differs with the individual case is granted by Kretschmer. His efforts to differentiate the sensitive delusions of reference from Manic-Depressive Insanity, Dementia Præcox, etc., as a special Disease Group must therefore remain unsuccessful. They included, not one disease entity founded on a definite constitution, but a remarkable pathological reaction type of various, particularly schizophrenic diseases. Well developed reaction types equally explainable from their character, experience and environment, on the ground of various constitutions, were already known to us,— for instance, the "querulent" delusions on a psychopathic basis, constitutional hypomania and schizophrenia, and the delusions of innocence and pardoning of the schizophrenic and psychopathic prisoner.

These experiences, as well as the observation of several cases of psychogenic delusion formation in traumatic mental enfeeblement, gave Kretschmer the idea of progressing from the abstract diagnosis to the plastic, from the single to the multiple dimensional, to the "stratum" diagnosis. Kretschmer's goal is to understand and define the disease picture in its biological as well as its psychological relation. Constitutional studies provide the foundation and personality researches the psychological contribution, while the physical side is to be elaborated from morphology, serology, etc. Besides the constitution theory there is the character theory, which must determine the relation between character, experience and reaction. The characterological lies over the constitutional level without covering its border lines. Characters of a like reaction type can develop from various constitutions, and vice versa. In addition to the constitutional and characterological, there are still other factors — somatic exogenous disturbances and physiological syndromes such as involution and the senium — so there appear three, four or five fold relations under which the disease picture may be observed.

Kahn has denied the correctness of this viewpoint, not altogether, in my judgment, with justice. If we have met the first requirement — the determination of the constitution (the schizophrenic, manic-depressive, epileptic, etc.) — then it will be a step in advance if we are able to intelligently differentiate the remarkable multiplicity of manifestations within the various constitutional disorders by means of their character, experience and reaction. That has actually been done frequently: diagnoses such as "querulent delusions on the basis of hypomania", "hysterical reactions on the basis of schizophrenic brain diseases", "constitutional depressions with a tendency towards compulsive ideas", etc., were made before Kretschmer. His contribution is the fundamental establishment of this hypothesis. That, however, many disease pictures were almost entirely dominated by single components was also clear to Kretschmer. In the definitely adolescent schizophrenic forms in which the constitutional elements particularly strongly appear to predominate, this viewpoint would scarcely substantially serve, whereas a critical consideration of character, environment and experience within the paranoid forms, especially those of advanced years, will often harmonize our understanding of the diversity of their content.

Almost simultaneously with Kretschmer, Birnbaum has given expression to similar views in a very clear and conservative, well prepared study. He also directed attention from the disease form to its composition, its structure. He differentiated, above all, the pathogenetic basic symptoms which have to do with the actual cause of the disease, determining the specific nature of the case, from the pathoplastic, which comes into consideration in the form of the disease, lending form and color to the already well defined etiological basic type. Within the pathogenetic appear the preliminary predisposing, within the pathoplastic, the preliminary performing, structural factors as definite general predispositions. As provocative factors are designated those which render the well determined association between the pathogenetic and the pathoplastic, merely mechanical and manifest. The determinants of the structure of the psychosis concerned — external: intoxication and trauma, for instance; internal or somatic: endocrine disturbances and arteriosclerosis, for instance; biological, such as constitution and age; and psychological, such as experience and environment, are coupled together in various ways depending on what factors are active, pathogenetically, pathoplastically or in predisposition, provocation, etc. The psychic factors were deemed to be particularly significant which determine the pathoplastic in nearly all cases coming into consideration. Thus psychoplastics, that is, the psychic form of the pathogenetically determined union, the psychogenesis, that is, the psychic causation; and the psychoprovocation, that is, the psychic precipitation of mental disturbances, are contrasted. As the influence and importance of the several clinical determinants on the structure of the individual psychoses is very variable, pathogenetic, predisposing, pathoplastic or provoking factors coming into consideration in one disorder more, in another less, Birnbaum justifiably holds that there is a good outlook for the clinic to determine the value of the structural differences.

That one cannot always see the structural products through which determinants are produced, that further, disease manifestations that cannot be distinguished one from another are now, at one time, looked upon as pathogenetic, at another, as pathoplastic, Birnbaum has not denied. The same difficulties were found in the application of his views to schizophrenia that relate to their significance.

V.

The view of the Kraepelin school in general was that dementia præcox was a well defined endogenous disease which seized those predestined thereto like an inevitable fate and followed a prescribed course like paralysis, scarcely influenced by external influences. Representatives of all callings are attacked by the disease without any regard to whether they had been exposed in any great degree to physical or mental traumata or led a quiet and care-free life. In fact, the most fatal outbursts of the disease manifest themselves in a most startling way when perhaps in a seriously affected family, in spite of every conceivable precaution, one child after another becomes ill or, as has been observed, twins are almost simultaneously attacked even when they resided in different places and had lost all contact with each other.

Although the theory of the endogenous origin of dementia præcox is well established, there are observations which cannot be reconciled with it without difficulty. The cases in which schizophrenic disturbances came to a sudden development in a direct association with parturition, infectious diseases, a severe mental trauma, or other external influence still seem to be too common to assume that they are accidental associations of physical or mental traumata and psychoses. In spite of the not only theoretical, but eminently practical, significance of these cases, but little attention has been given to the relation between dementia præcox and external factors. New interest was first aroused in these questions by the work of Bleuler, Jaspers, Kretschmer and Birnbaum.

Kraepelin, as has been said, is not inclined to assume close relations between mental conflicts or emotional shocks and the appearance of mental disturbance in dementia præcox, although he does not deny that psychic causes may not produce improvements or aggravations in the condition of the patients. Bleuler, however, does not assume that an emotional shock can "actually cause" the disease. An accidental psychic influence within maximum limitations could not well make the disease process, with its almost imperceptibly advancing progress, whether the internal disease picture was improved or aggravated, manifest through the appearance of secondary symptoms and develop a latent into an active schizophrenia. The sharp differentiation of Bleuler between the organic schizophrenic process and the active psychic manifestations, the "external disease picture" moves us, in every case where we observe the development of schizophrenia, whether in immediate relation to an emotional shock, or as the result of more prolonged mental conflict, to ask the following questions:

Is there some accidental concurrence of an unpleasant experience and the disease attack, or is there any association between the two? If so, Is the question one of developing on the basis of a latent or manifest schizophrenia, a schizophrenic coloring from the existing disposition or disease, a progressive reaction, etc., a transitory reaction, or, of the development or aggravation of progressive organic processes, of a schizophrenic phase, or Is it a question of schizophrenia at all, or is it a psychosis or reaction which presents only external similarities to a schizophrenic disturbance?

Jaspers in supporting Bleuler's views has given special consideration to the attacks or episodes ("Schüben") and the reactive states of schizophrenia. The attacks produce, even when the active symptoms disappear, a permanent change in personality; after the conclusion of a "reactive state", however, the patient returns to practically his former condition. Attacks include the general content of the former times; Reactions get their definite content from one or more experiences out of which the psychosis constantly develops. Attacks appear spontaneously, Reactions in temporal association with experiences. A fine distinction between Schüben and reactive psychoses is, however, not practicable. On the one hand diseases are observed (Bornstein has described these as "Schizothymic Reactions") which developed in connection with a violent emotional disturbance whose content stands in very evident association with a preceding experience which above all bears the stamp of a reactive state throughout and finally progress to a characteristic endstate, and on the other hand we also see sudden katatonic excitement, stuporous states appear in association with serious mental conflicts and shocks which have no explainable association with the experience, showing therefore the characteristics of "Schüben" and disappearing without demonstrable change in the personality.

Nevertheless, the differentiation by Jaspers of the schizophrenic "Schüben" and the reactive states in latent or manifest schizophrenia is valuable. The reactions seem to me, however, to appear in the form of short, hysterical states as described by Bleuler, or as pathological developments, perhaps in the sense of querulent delusions, compensation neuroses (Rentenneurose) and similar pictures, and to be comparatively rare. Psychoses lasting for a longer time may, however, be considered as "Schüben", that is, as manifestations of the flaring-up of an organic process.

In the determination of the question as to whether the schizophrenic attack may be precipitated by an unpleasant experience, the subjective judgment of the observer plays the decisive role. The unusual frequency of violent emotional shocks must warn us not to associate their simultaneous appearance with a development of schizophrenia without something further as to the inner relations between them. That the proof of an association between experiences and psychoses is no evidence of their etiological unity has already been explained. Frequently we encounter cases where the relation between fate and the psychoses forcibly impresses the unprejudiced observer. That is particularly important in the frequently observed diseases, where the acute schizophrenia starts suddenly with a single severe emotional excitement, when perhaps a clerk, until then unnoticed, several hours after a murder had been committed in her presence, was seized with an acute katatonic excitement, or a young lady, normal until then, becomes katatonic on her wedding night; then the etiological association between the experience and the psychosis appears to be obvious. Cases in which these relations are in a way significant are, however, in the minority as compared with the number remaining and it seems to us that their frequency is highly exaggerated by the Zurich school. Extremely instructive in this respect were our war experiences. Although thousands of obvious schizophrenics and certainly hundreds of thousands of latent schizophrenics (in the sense of the Zurich school) were in the field and were exposed for months and years to the hardest of mental strain and emotional excitements, only exceptionally were psychoses observed, as described by Kurt Schneider, where the development of the disorder directly followed an emotional experience, perhaps a shock, and the etiological association of the two was obvious.

If the relation between solitary occurrences and schizophrenia is difficult to explain, the question is hardly to be answered with our present knowledge as to the etiological association between more prolonged mental conflicts and strains, sorrows and cares, multiplied blows of fate, etc., and schizophrenia. If one admits that an isolated emotional disturbance is sufficient to precipitate a schizophrenic attack, it can scarcely be denied that a combination of mental excitements can have this effect. As a matter of fact, even those who concede the first possibility are often not inclined to draw any conclusion therefrom, and agree to the second. How frequently the views over these same points differ is shown by the conclusions regarding the question of the injury due to military service in schizophrenia, which have brought out very divergent opinions. There is no convincing proof at present for either the one or the other of these viewpoints. If the chronic mental traumata play an actual role in the precipitation of schizophrenia, then it must appear in a large number of the disorders in the field. The general opinion is that an increase in the number of cases was not observed. That impression may, however, be materially changed; only accurate statistics can be convincing. To obtain these, however, insuperable difficulties are not encountered in these debatable grounds.

Perhaps this question would be nearer a solution if we were able to determine the relation existing between criminal punishment and schizophrenia. An earlier writer, von Delbrüch, entertained no doubt as to the effect of imprisonment in producing diseases. At first the theory of the endogenous origin of dementia raised some doubts as to the correctness of these observations, so that at present most investigators would agree with Kraepelin's views, in accordance with which, a real significance cannot be attributed to the imprisonment in the precipitation of the disease. At any rate, one fact seems decided as to the significance of imprisonment as a factor in causing disease — namely, the apparently surprising frequency of schizophrenia among those imprisoned for life.

Leppmann's experiences also show that the "Life prisoners in time are all recognized as more or less deranged, being affected by either mild or severe grades of mental diseases". The views of this unusually experienced prison physician are confirmed by the opinion of directors of penal institutions assembled by Liepmann, according to which "a ten year hopeless imprisonment, on the average, in all such men leads to a slowly progressive cramping of the mental personality, a decline in the intellectual sphere and the normal emotional tone and volitional impulses in the sense of a deteriorative process". Többen also asserted that of "Seventy life prisoners by far the greater part were temporarily or permanently mentally deranged" and from the scientifically, of course, inadequate reports of the physicians of correctional institutions, Lumpp (Bruchsal) and Viernstein (Hailsheim) show likewise the frequency of mental disturbances of a progressive type in the fate of the life prisoners observed. Certainly one must ask whether in these chronic diseases it is a question of schizophrenia or not rather one of the obvious reactions of abnormal men due to personality, fate and environment. That these occur in life prisoners is not denied, but the short and hardly scientifically reliable sketches of the physicians mentioned do not appear to show that they are frequent. The preponderance of the chronic mental disturbances in the life prisoners, in any event, is made up of schizophrenia. In favor of that view is the fact that Rüdin in 47 psychopathic, epileptic and psychotic life prisoners, found 21 cases of dementia præcox in the narrowest conception of that disease.

Certainly one very weighty objection may be raised to the theory that lifelong imprisonment exercises such a fatal influence on mental health. Among the life prisoners we certainly find capital offenders whose crime of itself, or whose conduct at the time of the crime or afterwards, has raised some doubts as to their responsibility and who for this reason were not sentenced to death but to life imprisonment or whose sentence to death was commuted to that of life imprisonment, and among these offenders of doubtful mental soundness there were certain to be cases of schizophrenia or latent schizophrenia, which, even without the damage done by life imprisonment, developed obviously unrecoverable disorders. Without underestimating the weight of these objections, I am still inclined to doubt that they convincingly explain the apparent frequency of schizophrenia in the life prisoners. Only a carefully undertaken investigation of a large number of life prisoners, with a consideration of the hereditary taint, the original personality, the crime, etc., and a careful statistical accounting of the results can yield a clear understanding of the relation between imprisonment and schizophrenia. If it turns out, then, that a long prison residence leads to an increase of schizophrenia in an originally more or less gifted average personality, then it is a definite indication that chronic mental traumata can actually induce a schizophrenia.

Of course objection may be raised to these views. Granted that a long, hopeless imprisonment can precipitate a schizophrenia, the damaging factor does not need to lie in the mental strain and shock but in some of the external physical traumata connected with the imprisonment. The earlier writers have already ascribed the determining influence on the origin of the progressive psychoses, now to the mental, now to the physical, now to the conjoint action of both prison factors. I myself was inclined formerly to look upon the deprivation of air, light and exercise, the monotonous nourishment, and the disturbances of metabolism developing therefrom, as the disease producing factors in long imprisonment. The fact, however, that according to Rüdin's experience, at least, the large number of the life prisoners develop disorders in the first year of the imprisonment, as well as probably also the old observation that even in the chronically developing schizophrenias of imprisonment, obvious accessories, — ideas of innocence, querulent delusions, hallucinations and delusions of a wish fulfillment type, often for a long time determine the disease picture — seem to me to speak more for the disease producing influence of the mental prison factors.

If a schizophrenia appears in temporal association with a severe emotional excitement, and we believe that we have adequate grounds for bringing together experience and the psychosis in etiological association, the often debated question suggests itself: Is the disease caused or is it precipitated by a mental shock? One obvious hypothesis is the constitutional predisposition to disease in the causation of schizophrenia; from this point of view the schizophrenia would be considered as precipitated by the experience. This disposition is in one case demonstrable in the form of a latent schizophrenia, in another it becomes probable through a study of the family, in a third it is, however, neither to be demonstrated or proved but merely a theoretical assumption. Whether the disease develops, after some experience, as the effect of a latent schizophrenia or a schizophrenic taint in the personality, it is more important to us than the last shock which aroused the slumbering disease and we are inclined to the view that the disease would have appeared later probably, in the course of time, without the shock. Is it not also a possibility that the severe mental shock may be more than merely a final impetus to the disease outbreak, that the person without this misfortune, as far as the human mind can conjecture, may have permanently escaped schizophrenia. Should the large proportion of disease producing results be actually due to imprisonment, as would appear from the reports of the mental condition of life prisoners under consideration, then this question is settled. Then the disease predisposition can be traced back of the precipitating prison factor so that practically we must speak of mental traumas as causative of schizophrenia.

How we shall explain the precipitation of a schizophrenia, that is, the organic or toxic processes, through mental trauma, is the question. When we remember the development of thyrotoxic disturbances, of Basedow's disease, of the increase in adrenalin production, in conjunction with violent emotional shocks, there remains the possibility of thinking that the cerebral endocrine disturbances may also be precipitated by them, which will be acccepted as the basis of schizophrenia. Thus the outbreak of the disease in conjunction with a disturbing experience can be brought into relation with the cases in which psychoses are observed in the course of endocrine diseases, as well as other endocrine disorders associated with somatic processes.

The same uncertainty which relates to the association between fate, experience and the development of schizophrenia exists as to the question whether certain external somatic conditions are able to stir up a slumbering schizophrenic predisposition. That pregnancy, childbirth and lactation may precipitate the disease has been asserted repeatedly. Kraepelin, who, moreover, is not inclined to assign a role to external causes in the development of the disease, believes that dementia præcox can only be brought into a very general association with pregnancy and childbirth. Bleuler is also of this opinion. According to my experiences, pregnancy plays no role as a precipitating factor; on the contrary, pregnant women are so rare in our admissions of schizophrenia that one could almost assume that pregnancy protects against dementia præcox. It is very different with the much more common psychoses of childbirth. As, however, even in the puerperium, psychoses develop which frequently are difficult to differentiate from the schizophrenic confusional states, the question as to whether schizophrenia is especially common in childbirth is hardly to be solved on the basis of our present knowledge.

The relations between schizophrenia and febrile infectious diseases are somewhat simpler. Kraepelin, Bleuler and many others are inclined to recognize the association between somatic and mental diseases. Bleuler refers to his experience that febrile infections not rarely exercise a beneficial influence on schizophrenia and concludes from that that the reverse action cannot be denied without going further. I also do not doubt that schizophrenia can be precipitated by infectious diseases. An association between the two is, however, not definitely shown by the wide distribution of infectious diseases and schizophrenia. The solution of the problem is, moreover, more unsatisfactory on account of the difficulty of a differential diagnosis from the symptomatic psychoses.

The earlier literature has repeatedly and exhaustively concerned itself with the question of the association between head injuries and schizophrenia, particularly that of v. Muralt, Pfister and Berger. Inasmuch as they consider the causative relation between trauma and psychosis established, they believe that somatic causes are to be made responsible for their origin. V. Muralt thinks that only the role of a weakening factor to the constitution, is to be attributed to the trauma. Pfister holds a causative association between head trauma and psychosis to be not only possible but conceivable and that the trauma, through the production of a general brain injury, creates a point of attack for the katatonia producing toxine. Berger also, in referring to Goltz's experience in operating on the brains of dogs, holds that an influence of brain injuries on the processes of internal secretions is possible and thereby also the development of psychoses. He is accordingly inclined to the assumption that without the occurrence of a trauma the patient would have been free not only for a long time, but probably forever, from his mental disorder.

Occasionally in investigations undertaken in our clinic of schizophrenic participants in the war we found, to our great surprise, that in fact, a comparatively large number were affected sooner or later after a head injury. Pfister's assumption that a brain trauma produced a disturbance of the regulation centers proposed by him and thereby led to the elaboration of abnormal products of metabolism which is the final cause of the katatonic brain disorder, seems to be supported by these experiences. A questionnaire to the directors of several of the larger provincial institutions and schools for those suffering from brain injuries, as to the frequency of schizophrenia and schizophrenialike disorders in those with brain wounds, produced no significant results. Albert Schmidt, on the other hand, who at my suggestion attempted to solve the problem as to the relation between head injuries and schizophrenia with the material of the Munich school for brain wounds, made observations similar to ours: Brain wounds seem to have an unusual tendency to psychoses which bear the stamp of an endogenous schizophrenia throughout. The question as to whether these psychoses are genuine schizophrenias is still lacking in convincing proof. If it results affirmatively there can after these experiences scarcely remain any doubt that a severe head injury may, in fact, precipitate or cause a schizophrenia. If an investigation of the psychic fate of the other war injuries confirms the much less frequent appearance of schizophrenia in those cases, than in the head injuries, then it will be shown that, not the serious wounds with their consequent mental shocks, but the head trauma of itself, is the cause of the outbreak of the disease. These researches may have a fundamental significance in the theories as to the nature of dementia præcox. We will return to this subject later.

VI.

Gentlemen: While Kraepelin and his school had at first attached great weight to etiology and the course of the psychosis, as a research principle, the study of the degenerative psychoses, of manic-depressive insanity and also of schizophrenia, directed attention in an increasing degree to predisposition, character, temperament, disease tendency and the constitution.

Birnbaum had spoken of "the general psychic reaction type, of functional efficiency and psychic power of resistance as the building stones of the psychic constitution". Kahn opposed Johannsen's psychic theories with his biological concept. These were thereby definitely associated with heredity, and the significance of genealogical researches in the clinic emphasized anew. Since Sioli, the first, indeed, of the psychiatrists to pay special attention to the forms of the hereditary mental disturbances on clinical grounds, the problem was taken up and dealt with by numerous investigators. Special interest was given to the question as to whether the two great disease groups are similarly transmitted or appear to be dissimilar in their heredity. Owing to the difficulty of obtaining a complete reliable scientific foundation from careful and exhaustive case records from which safe conclusions can be based upon disease pictures made by others, the difficulty of following the fate of the cases for years at a time, and not least of all, as a result of the uncertainty of the differential diagnosis between the two disease groups, it is not surprising that the views on this subject differ greatly. If one weighs these views and considers the evidence presented, it favors overwhelmingly the probability that manic-depressive insanity and dementia præcox have a separate heredity, a view which was generally entertained by the earlier students of heredity. If we accept that as an established fact, then studies of familial mental disorders will be a genuine help in clinical researches. Occasionally, indeed always, devoted to this subject, Berge, who first pointed out impressively their fundamental significance, has shown their availability for the clinic in a critical and eventful study.

The German Research Institute, under the direction of Rüdin, has developed the investigation of the laws relating to the heredity of mental disorders into a special science, and is endeavoring to mathematically establish laws based on abundant materials. Of the doubts which may be entertained regarding the method under consideration only one will be mentioned, — Mass investigations can only apply to the obvious psychoses. The insidious, inconspicuous mental disturbances escape observation, and at the same time consideration in the statistical computations. That a hebephrenia, however, which would never be recognizable as a mental disturbance except for its surroundings, changes the personality in the sense of a permanent endstate, and is statistically as important as a katatonia precipitated by an infectious disease, may be assumed from the beginning. The wide dissemination of inconspicuous mental disorders in the relatives of the mentally afflicted has long been known. In the manic-depressive cases particularly, Reiss has convincingly shown the frequency of affective abnormalities in the blood relatives, and placed them in their actual relation to the stormy psychoses. Similarly, Bleuler, Berge and others under the designation Latent Schizophrenia, or præcox-predisposition, have shown the wide distribution, recognized by all experienced psychiatrists, of certain special characters in the relatives of schizophrenics, the significance of which in the heredity of these diseases is at least not improbable. The psychiatric researches in heredity cannot therefore be limited to laying the foundation for statistics within the families of obvious psychoses, but must keep in view the inconspicuous prevalent disturbances appearing as abnormalities of character. That has in fact been done in the last studies of the research institute, which is endeavoring at the same time to make the family studies of clinical psychiatry profitable.

After Kahn had attempted to show the efficiency of the analyses of heredity in psychoses in a small amount of well selected material, Hoffman, starting with similar scientific considerations, turned to the same comprehensive researches.

Hoffman attempted to ascertain the mental condition of the offspring of 370 dementia præcox, manic-depressive and epileptic families and follow up the laws of heredity in these diseases. Great difficulties were encountered in the inquiry. In only a third, perhaps, of the material used in the undertaking, 58 dementia præcox, and 61 manic-depressive families, could a foundation for the work be laid. A personal investigation of all of the members of the families had to be given up. Hoffman was often forced to base his opinion on questionnaires and further inquiries of relatives and officials and also to study such families as they could obtain reasonably useful written descriptions of. In spite of these limitations the material was very extensive; the 119 families, leaving grandchildren out of the question, had 251 children. In the accumulation of this material Hoffman had three months at his disposal.

I will not attempt here to go into the question as to how far Hoffman succeeded in determining the laws of heredity in dementia præcox and manic-depressive insanity.

Reference is made to his accomplishment only in so far as the effort was made to inquire into the schizoid character and lead back to the mixture of schizoid and cycloid heredity in the atypical psychoses.

In the differentiation of these schizoid characters Hoffman shows himself in accord with the views, not yet discussed, of Kretschmer, which, on this new hitherto scarcely touched topic, is only to be understood by the closest consideration of the two together. Hoffman designated as the fundamental features of the schizoid character, apathy, emotional coldness, poverty of affect and emotional dulness on the one hand, and mental oversensitiveness and irritability on the other. The combinations with other little peculiarities such as lack of humor, pedantry, fastidiousness, cool deliberateness, affected religiousness, obstinate stubbornness and fanatical narrowmindedness and unreasonableness, biting cynicism and cold insolence, tendency to daydreaming, phantasies and other eccentricities, gave him certain definite significant types in all of which there is a characteristic tendency to psychic autismus. Such types Hoffman recognizes in the cold phlegmatic, the sober matter-of-fact individual, the seclusive scholar, the hyperæsthetic visionary, the tolerant pious devotee, the disagreeable snappish old maid, the irritable self-centered inventor, the unstable idle spendthrift. Alongside of the severest forms of ethical dulness he finds the severe pedantic petty moralists. All of the types lack the anomalies of affect which are found in strongest expression in manic-depressive insanity, an evidence of the sharp division between manic-depressive insanity and schizophrenia as phanotypic entities.

If I express doubts as to Hoffman's views, they do not relate to the productivity of the genealogical researches of the clinic; they direct themselves, on the contrary, exclusively against the methods by which he obtained his material. I do not deem it trustworthy and must therefore view the conclusions which he draws from his researches as, to say the least, premature. I have already referred to the difficulty of making an unmistakable picture of a psychosis on the basis of the description of a disease made by others. How infinitely more difficult is the diagnosis of a character than that of a manifest psychosis. To what errors is even the experienced observer of human nature liable in his estimate of character in his immediate neighborhood; how often is one experience enough to thoroughly alter the character picture which we have made of a personality after years of association together. What difficulties we encounter and what time and labor it costs us, when we attempt to draw out from the relatives of a patient a fairly exhaustive objective description of his character and his premorbid personality. How cautiously must we frame our questions if we do not unconsciously influence and distort the results of our inquiry. How frequently we encounter persons who entirely lack the ability to understand character and describe it so plastically that we can observe it. Still more, what do we know ourselves, of the character of our own relatives, even when we pick out the very nearest ones? Can Hoffman, in spite of these fundamental, almost insuperable, difficulties, even by personal investigation, in a short three months, obtain reliable, trustworthy scientific information as to character, from hundreds of persons by means of elaborately prepared questionnaires and by further inquiries? I cannot believe it, but fear rather that he has fallen into the common human error of finding what he wished to find and, from the variety encountered in the descriptions from relatives and officials, emphasized that which agreed with his theories.

And then it must be admitted that the self-deceptions are unimportant as compared with the overwhelming number of correct observations and interpretations. Who will guarantee that all the peculiarities of character which Hoffman established in the relatives of his schizophrenics all belong to the schizophrenic heredity and are schizoid? Are there then only two hereditary types, the schizoid and cycloid, or perhaps also the epileptic?

These doubts relate to the same extent to the efforts of Hoffman to show the independent hereditary types of the atypical psychoses from a mixture of the two. If I cannot with full confidence oppose the conception of the various characters, I am not convinced by the clinical arguments and conclusions by which they are supported. Not that I support the point of view once taken by Gaupp, who recognized a combination of psychoses only in those cases where an acquired mental disturbance was associated with a congenital anomaly or a psychosis was changed or complicated by other usually incidental brain alterations. On the contrary, one asks himself in vain why manic-depressive insanity and schizophrenia can not combine and mix with each other in various ways. If one admits that now and then both hereditary taints in one family tree express themselves in psychoses, then it may be assumed that they may appear as manifest psychoses, at the same time, or one after another, in the same member of the family. This possibility can only be excluded then if perhaps the manic-depressive is schizophrenia-proof, or the reverse, if schizophrenia is proof against manic-depressive insanity, for which all evidence is lacking. From the frequency of both mental disturbances their combination is not only possible but even probable. In fact, such combinations and mixtures have already been referred to on various sides, for instance, by Stransky, Berge, etc. I have also considered them frequently and have occasionally ventured to agree to them. While the appearance of both disturbances in one person is not often described, the ground for this was the critical observation that manic-depressive syndromes have been observed in schizophrenia, and schizophrenia-like conditions in manic-depressive insanity, even without a demonstrable double hereditary taint. If clinical diagnosis is not to develop into hairsplitting, one may do well first of all, in the atypical cases, to weigh well the consideration of a combination of the two disorders where a double taint has really disclosed significantly the appearance of obvious psychoses in the ascendants of both groups. The proof of a Kretschmer schizoid complex in the family of a manic-depressive is not enough for the assumption of a mixture of two hereditary types, so long as the question of the relation between this abnormal personality and schizophrenia is not cleared up.

VII.

After Birnbaum and Kahn had directed attention anew to the constitution of the mentally disordered, the next thought was to give an increased consideration to the physical correlation of the mental constitution, to the physical structure of the patient. That was done at practically the same time by Beringer, Düser and, above all, by Kretschmer.

Kretschmer investigated the physical structure of 100 circular and schizophrenic cases, by means of the compass, the tape measure and the eye. The variations in the bodies measured he thought actually pointed to a few well-recognized types, the pyknik, the asthenic, the athletic and a number of dysplastic types — the eunochoid tall stature, the eunochoid and polyglandular obesity, the infantile and hypoplastic types. In the features in which the endocrine formula are particularly influential, Kretschmer found those types again. The characteristic pyknik features, the flat pentagonal (Fünfecktyp) type, is the true picture of the pyknik bodily structure; the angular and long-nosed profile is characteristic of the asthenic; and for the athletic, the bluff oval-formed features. The comparison of the physical findings in the two disease groups led him to the conclusion that between the bodily structure type and the mental predisposition, there was a definite biological affinity, and moreover, that the circular predisposition almost exclusively shows a pyknik bodily structure. The schizophrenics, on the contrary, are divided between the asthenic, athletic, dysgenital and other dysglandular types.

Kretschmer turned now, like Kahn and Hoffman, to the study of the heredity of the premorbid personalities and found when several constitution types crossed in one patient, the various components under certain circumstances in other members of the family, were clearly isolated and split again so that the classic features of a constitution type may be more clearly shown in the nearest relatives than in the patient himself. In a consequent heredity study it cannot lead to any limitation on the other members of the patient's family. A heredity table in which only the psychoses are recorded, is like a gap in the text in which most of the words, and the very words that give it sense, are gone. From the constitutional viewpoint the psychoses are only individual central points scattered in a widespreading net of normal somato-characterological constitutional relations; in the widest biological conception they are observed as nothing else then conspicuous representations of normal temperamental types.

The numerous personality fluctuations between the sound and the afflicted, which Kretschmer found in the relatives of his patients, to him, reflect in the lighter grades, a variety of personality with fundamental psychological symptoms either of the circular psychoses or schizophrenia. A corresponding taint through obvious psychoses is, however, in no way necessary to a diagnosis of these cycloid and schizoid types; they are to be recognized rather by their psychic and physical habitus. By the means of numerous case records Kretschmer attempted to determine the temperament of the two forms and reduce them to definite proportions. The proportion in which in the cycloid individual hypomanic and depressive elements appear together he called the diasthetic proportion; as the æsthetic proportion he designated the mixed proportions in which the hyperæsthetic and the anæsthetic are mingled in a single schizoid. Out of these proportions Kretschmer sought to develop the cycloid and schizoid types from the endless wealth of forms.

Kretschmer goes still further and follows his established viewpoints over the border of the psychiatric domain into normal psychology. Among the sound men he finds the same types of features, the same stigmata of physical constitution, and discovers that behind the same exterior architecture the same psychic impulsive forces dwell. Out of several hundred individuals well known to him by personal association, Kretschmer chose 150 who in bodily structure showed unequivocal evidences of asthenic, athletic and pyknik types. Among the pykniks he found the talkative happy individual, the quiet humorist, the calm emotional types, the indolent epicure, and the energetic practical man. Among those who in their bodily structure corresponded strongly with the schizophrenics in their personality appear the gentle sensitive individual, the retiring idealist, the calm gentlemanly types, and the egotists; the dull and the idle particularly. In these sound average individuals, Kretschmer found no fundamental differences from the mentally afflicted cycloid and schizoid persons.

Kretschmer's deductions are not in any way convincing to me. Above all, the established are not definite entities but variable physical types which mix with and overflow into others. Even the purest, the pyknik type, has mixtures of the asthenic, athletic and other types. In concrete individual cases Kretschmer continually finds the type obscured by heterogeneous individual tendencies and in many places obliterated. A long practice with the eye is necessary to discover the type in a given case. Even the pyknik type can be mixed with others to such a degree that it at first glance is not very different from the average picture; only by careful consideration and measurements do the pyknik components appear. The structure of the features is not regularly parallel with the general bodily structure; one finds often a pyknik head with an asthenic body, and the reverse. In these borderline cases it always remains subjective, whether they are included in the reckoning of the individual types or not. Moreover, there are many exceptions to the rule as to the affinity between the pyknik habitus and the circular, between the asthenic, athletic habitus, etc., and schizophrenic insanity. Cases of pyknik schizophrenia and asthenic circular insanity occur repeatedly. Finally all of the stigmata of a body structure type do not need to be present at all ages of life. They may, for instance, appear first as a pyknik family obesity in the advanced years of life and disappear later.

All of these assertions do not bring Kretschmer by any means to the certainty that his theories can be overthrown by these numerous exceptions to the established rules. On the contrary, they are to him only apparent exceptions to the rule which by a correct interpretation would further support his views. Cases in which pyknik and asthenic body structures or cycloid and schizoid types are mixed with each other, or those where the circular insanity has been observed in an asthenic, or schizophrenia in a pyknik bodily structure or where physical or psychic habitus changes during the course of life, are explained to his satisfaction by the assumption of a constitutional mixing (Legierung), a crossing and changing of dominants. That the circular and schizophrenic form types have their analogs in the normal n cyclothymic and schizophrenic characters, the sound mentalities falling entirely nto these two types, that the additional relatives of most circulars and schizophrenics include a mixture of both personality types, are explained by Kretschmer n pointing out the possibility of exceptions to all established rules. Pyknik characteristics in the schizophrenic body structure, asthenic and athletic in the pyknik, circular psychoses in the asthenic, schizophrenic in the pyknik habitus, every atypical symptom complex and course; in short, every conceivable combination, s without any exception explained on the grounds of these views.

In spite of the various interventions of Kronfeld, and particularly of Bleuler, in behalf of Kretschmer's views, I look upon them as fundamentally wrong. A frank criticism is at once unquestionably confronted with the suggestive force which goes with the brilliant presentation of his views. I hold that it is premature to include the abnormal individuals in the relatives of schizophrenics, at this time, in the schizophrenic heredity; I am of the opinion that the variability of the psychopaths does not justify their separation into two groups. I hold that it is still a mistake to divide the normal individuals exclusively between the cyclothymic and schizophrenic temperaments; the close relation between physical types and psychoses, physical types and temperament, is, in my opinion, not proved and the attempt to explain the acknowledged exceptions to this proposed affinity by the assumption of the mixture, crossing and changing of dominants is a failure. Within the domain of the mentally sound one only exceptionally encounters persons which one can point to perhaps as pure types of schizophrenic or cyclothymic temperaments. When I examine my own family from Kretschmer's viewpoint, I find, above all, the most intimate mixture of both temperaments without being able to explain this circumstance by going far back in the family history. Bleuler is also of the opinion that in most, perhaps all, of the average individuals there are cycloid and schizophrenic components. If that is the case, then certainly every combination is to be explained by biological heredity. If we agree to this conception, then we have after the fortunate conquest of Brain mythology — Heredity mythology.

I will not fall into the error, which many have committed, in opposing Lombroso's ingenious institutions and only offer negative criticism. It would be a narrow viewpoint not to refer to the numerous suggestions which have originated from, and will grow out of, Kretschmer's teachings. The skeptic cannot escape the impression that there is a real nucleus in Kretschmer's work and one must unreservedly and thankfully recognize his great service in so impressively pointing out the relation between physical types and character. That such a relation exists is indeed beyond doubt; in favor of that is the fact that the intuitive observer of human nature considers not only conduct and action, but also physical structure in his conclusions as to character. Certainly these relations will be entirely different from those assumed by Kretschmer. This attractive but unusually complicated problem of the relation between psychoses, character and bodily structure will only be solved, if at all, by the close collaboration of experienced anthropologists and psychiatrists.

VIII.

The clinical, psychological, phenomenological, structure-analytical, and heredity viewpoints of schizophrenia have not in the least reflected discredit on the theoretical development of the other, the brain-physiological, or, as it is more commonly called, the anatomico-physiological viewpoint.

The numerous physical, cerebral, vasomotor and other disturbances in dementia præcox, the details of which I do not need to go into, point to some organic or toxic origin. The effort to obtain a clue through this to the immediate cause of the disease was therefore indicated. Definite foundations for the physical basis are lacking; the hypotheses which attempt to explain dementia præcox, in part as an expression of localized brain disturbance, and in part, as an endocrine disorder not having been successful.

Attempts to explain the motor and other disturbances of dementia præcox by brain physiology have not been lacking. I will refer only to the theories of Roller, Arndt, Meynert and lastly to the ingenious hypotheses of Wernicke. Based on these, Kleist in an exhaustive study, starting with the motor disturbances, endeavored to establish the psychic picture of the motility psychoses as a disorder of the fronto-cerebellar pathways. Kleist met with severe criticism at once from Stransky, Isserlin and Gaupp; his theories later failed to be accepted in spite of the general recognition of the remarkable observations and numerous suggestions which he gave us, and have had no influence on the further development of our knowledge. The efforts of earlier times to anatomically localize certain motor disturbances of dementia præcox have been given a new impetus through the appearance of a very common disease picture, showing symptom complexes, the similarity of which to certain forms of katatonia must suggest itself to every unprejudiced observer.

In the conditions following encephalitis lethargica we observe symptoms and symptom complexes which remarkably resemble the katatonic states; catalepsy, general or local rigidities, grimaces, "Schnauzkrampf", stereotypies, verbigeration, symptoms which Wernicke and Kleist have described as hypermetamorphoses and von Leupold as "Abtasten". Steiner goes still further into these symptoms. Encephalitis lethargica is anatomically speaking essentially a disease of the deeper brain structure, namely, the basal ganglia, and in fact similar manifestations with corresponding localizations have been described by various authors in other diseases. The fact that the disturbances mentioned have been noted in other diseases such as katatonia certainly led to a careful investigation of the encephalitis lethargica cases. At any rate, without following Fraenkel, who is inclined to explain the whole picture of Katatonia as a disturbance of the subcortical ganglia, we may raise the question as to whether certain symptoms which Katatonia has in common with encephalitis lethargica and other striate diseases do not point to a similar localization.

At the present time we are indebted to pathological anatomy for an answer to these questions. There are indeed before us many studies of the histopathology of dementia præcox. In Nissl's opinion, however, the findings are so manifold and various that we are still far from grasping the essentials and characteristics of dementia præcox. Certainly the investigations up to this time have been limited almost exclusively to the cortex. The relation of the katatonic motor disturbances to similar symptoms in encephalitis lethargica must direct the attention of anatomists more than before to the deeper structure of the brain.

Kraepelin had already included cretinism and dementia præcox in his fifth edition as disturbances of metabolism. The theory that schizophrenia should also be looked upon as a disturbance of the internal glands gained ground with an increasing knowledge of endocrine disorders and finally won almost general recognition. In fact, there are numerous observations which support this theory. In favor of this are the frequent appearance of marked fat deposits, either general or localized, in certain parts of the body, the occasional Basedow's or tetanoid disturbances, the occasional although rare observation of katatonia in the course of Basedow's disease, and other disorders of a probable endocrine origin, and the frequently described osteomalacia in the course of chronic schizophrenic disturbances. In the same way importance is to be attached to the blood picture which has been found by numerous investigators to have much in common with myxoedema, Basedow's disease, hypophyseal disturbances and other toxemias of glandular origin. Also the relation which appears to exist between the sexual life, and its revolutions on the one hand and the appearance of dementia præcox on the other, point in that direction, as well as the frequency of its appearance at the time of strongest sexual disturbances, the increase of psychotic manifestations before and during menstruation, the suspension of the menses directly before the onset of and during the disease, and the relation which has been assumed to exist between the puerperium and lactation and the stormy schizophrenic psychoses. That the sexual characteristics of many schizophrenics differ considerably from the normal has been noted by all who have given this matter consideration; particularly the diminution or entire loss of sexual desire, homosexual tendencies, and excessive masturbation, especially before the onset of a stormy disturbance, have been observed with remarkable frequency. The investigation of the physical constitution of schizophrenics, moreover, by Beringer, Düser and Kretschmer led to results which may be readily interpreted as pointing to an endocrine origin of the disease. More frequently than in the mentally sound, one finds infantile and eunochoid types, poorly developed genitalia and small or atrophic testes. Consistent with this is the frequency of abnormal growth of the hair; the absence of pubic or axillary hair, occasionally of the general growth of hair, the appearance of the feminine type of distribution of hair in men, and of the masculine type in women. The prevalence of endocrine disturbance in schizophrenia is also thought to have been demonstrated by certain therapeutic investigations and importance has been attached to the same results with serological and other delicate methods of investigation.

Smith has observed that adrenalin increases the blood pressure in dementia præcox and especially in katatonia, but not in normal individuals. Pönitz showed that in a katatonic boy the assimilation of grape sugar was increased as it is in myxoedema, remaining remarkably high after the administration of adrenalin and that adrenalin, pilocarpin and atropin exercise a similar influence on the vegetative system, likewise an expression of thyroid deficiency. Hauptmann showed an increase in the blood coagulation time in katatonia such as is observed in thyroid hypofunctions. Goldstein showed a special reduction in muscular reactions to electrical stimulation similar to that found in tetany, and thinks this is a hyperfunction of the parathyroid. Also efforts have been made to show that certain disturbances of metabolism in katatonia are a manifestation of endocrine dysfunction. Many psychiatrists have looked upon the results of the blood investigations by means of the Abderhalden dyalisis reaction as the strongest support for this theory. Schizophrenic cases show a much higher percentage of reaction to the sexual glands, the thyroid and the brain, than do the mentally sound or other psychoses. I withhold judgment as to the value of this procedure. The prominent serologists attach little importance to the accuracy of its results.

As to these glands, the diseases of which disturb the harmonious action of the system, and thereby furnish the basis for an attack of schizophrenia, we cannot, however, at this time express a conjecture. There appears to be a general tendency to hold the sexual glands responsible. There are many objections which may be made to these views, however. As abnormalities of the sexual glands are anatomically demonstrable only in exceptional cases in dementia præcox, the supposed processes are not, with our means of research, to be looked upon as a demonstrable organic or functional afunction or dysfunction. An afunction of the sexual glands does not come into question, as neither in an early or a late castration do we observe schizophrenia as a common result. A dysfunction is equally improbable as otherwise we could expect a therapeutic result from castration. Moreover, neither the administration of all possible preparations of sexual glands, nor, after two years, the implantation by Enderlen at our suggestion, of a sound testicle in the abdominal cavity of a katatonic, had any influence on the symptomatology of the disease.

What holds good for the sexual glands, so far as our experience goes, applies equally to the remaining glands. All efforts, through operative measures or by means of the administration of active preparations of the various glands, to influence the disease have been without results. There is hardly one clinic which has not made at least occasional efforts in this direction. Kraepelin administered the various glands to persons as old as the middle of the ninetieth year. As comparatively little has been made public on that subject, it is an evidence of the lack of success of all therapeutic measures.

The fruitlessness of all efforts to find the cause of schizophrenia in the disturbance of any definite gland, and the fact that with the various methods, demonstrable endocrine abnormalities almost always involve a number of glands, has led to the theory that dementia præcox is an expression of pluriglandular insufficiency. This brings schizophrenia into relation with numerous essentially very different diseases, scleroderma, adipositas dolorosa, Raynaud's disease, degenerative genito-sclero-derma, and other disorders which depend similarly on a pluriglandular insufficiency. This theory, too, is not very satisfactory. A close relationship of the diseases mentioned, with schizophrenia would lead to the expectation of their appearing together more frequently in one person or at least in one family; neither the one or the other, however, is recognized. Moreover, pathological anatomy offers no support for these theories. It is indeed admitted that with the systematically undertaken investigations of the endocrine glands with all of the resources available, schizophrenia does not come into question. What abnormalities and striking features have been established so far, are nothing more than has been found in mentally normal individuals.

It may be considered as established only that certain relations exist between dementia præcox and endocrine disturbances and indeed that occasionally in individual cases constitutional endocrine abnormalities appear before the outbreak of a stormy psychosis, that further, the appearance of obvious disorders at the time of marked endocrine disturbances is favored, and finally that certain forms of schizophrenia, particularly katatonia, are often associated with outspoken endocrine symptoms. That endocrine disturbances are, however, the cause of schizophrenia is not proved. The question may be raised as to whether, on the other hand, the brain disorder is primary and does not in its turn precipitate the endocrine manifestations.

The influence of mental factors on the progress of endocrine functions is sufficiently recognized; emotional shocks affect menses and lactation, both, furthermore, are influenced by hypnosis. Shock will produce an increase in adrenalin production; mental strain, anxiety and fright precipitate, not rarely, a Basedow's disease; moreover, the war with its mental shocks has caused an increase in thyrotoxic disturbances. As the influence, therefore, of affects and emotional factors on endocrine disturbances is not to be doubted, the question may be raised as to whether we cannot now formulate from these processes a picture based on brain physiology.

Erdheim, on the basis of his anatomico-pathological studies of hypophyseal disturbances, has advanced the theory that there is a trophic center in the hypothalmus, lesions of which lead to fat production. Propst attempted, through injuries to the optic thalmus, to show fat production in the cat. Aschner claims to have produced a fully characteristic disease picture of dystrophia adiposogenitalis by localized injuries to the third ventricle in dogs. Occasionally inflammatory processes in the third ventricle, according to this same investigator, will produce such a high grade atrophy of the genitalia as has only been produced otherwise by extirpation of the glands of internal secretion, for instance, in adult animals. Aschner, on the basis of these and similar observations, feels justified in questioning the existence of a pluriglandular insufficiency, the multiple vasculo-glandular sclerosis of various authors and also Falta's late eunochoidism as primary endocrine disturbances and thinks he has found the cause of this disease to be a disturbance in a center in the interbrain which regulates endocrine activities. Certainly this view, the accuracy of the observations being assumed, has at present only a hypothetical value and requires acceptable proof on an experimental basis. Nevertheless we do not lack observation of the simultaneous occurrence of brain diseases and endocrine disorders which can hardly be looked upon as an expression of hypophyseal or pineal gland disturbances. Various observers, for instance, have referred to the common association of myxoedema and paralysis agitans which led Lundborg to the assumption that Parkinson's disease is a symptom of a disturbance in the parathyroid glands. A particularly instructive case of thyro-hypophyseal-suprarenal syndrome was reported recently by Mayer; — an examination of the brain showed a lesion in the corpora mammillaria and the surrounding area. If Aschner's view as to the existence of a center for the regulation of the glands is correct, then we must expect endocrine disturbances of various types as associated or resulting symptoms, of the now common disease of the basal ganglia — encephalitis lethargica. In fact, this theoretical assertion advanced by us has been confirmed. Runge, Grünwald, Bychowski and Stiefler have observed cases of obesity and dystrophia adiposogenitalis after encephalitis lethargica which they are inclined to look upon as results of a hyperfunction of the hypophysis. Bychowski, moreover, saw menstrual disturbances and frequent manifestations of the tetany type. The continued observation of the cases at our clinic by Steiner and Rosanes has brought other endocrine results to our attention — amenorrhea of a month's duration, the complete loss, in one case an increase, in sexual impulses, marked increase of weight without an increase in nourishment, and on the other hand a marked loss of weight with a voracious appetite, enlargement of the thyroid gland, in one case even, goiter with a rapid pulse, slight exophthalmus and motiveless mental restlessness and excitement, which can hardly be traced back to a dysfunction of the brain glands, but on account of the multiplicity and inconsistencies of the disturbances, speak for a central origin.

So the brain-physiological as well as certain physical observations in the endocrine disturbances as well as in dementia præcox, lead us to assume a common seat for both on the base of the interbrain and midbrain. If this view is correct, it would be proper perhaps for us to explain the frequency of schizophrenia or schizophrenialike disorders observed by Albert Schmidt and ourselves in cases with head injuries during the war. It is probable that severe brain traumata bring about changes in the interbrain, the psychic manifestations of which, suggest schizophrenia.

It is obvious, moreover, that these views do not constitute more than a working hypothesis. Many things indicate that the situation is still very complicated. Lesions of the endocrine glands lead to brain disorders and these again to endocrine symptoms. The brain and glands, therefore, have reciprocal relations. Probably the brain, like the liver, the spleen, the lymph glands, the bone marrow, and the intestinal glands, may be assumed to be links in the endocrine chain, the harmonious working of which is interrupted when only one link fails. In any event, the apparent irregularity in the endocrine disturbances, as in encephalitis lethargica and schizophrenia, would indicate that we must look for their seat in the deeper brain structure.

These questions can only be answered by a close association between anatomy and physiology. When Nissl, who took as the object of his work at the Research Institute the investigation of the anatomical foundation of dementia præcox, first of all took up a consideration of the anatomical structures of the basal ganglia, he may have anticipated the significance these brain structures would have in our knowledge as to the causes of dementia præcox.

Gentlemen: I believe that my review has sufficiently demonstrated two things: one, that in spite of the great progress which we have made in the conception of dementia præcox during the last thirty years, we are still at the very beginning of our knowledge, and second, that the avenues which will bring us to a nearer understanding of the facts are numerous and complicated. It is useless to argue as to what line of research will disclose the real source of knowledge. All methods of research are equally justifiable and have their claims for recognition so long as their limitations are appreciated and they do not make pretensions to the solution of problems which they do not have the adequate means of solving.

HOSPITAL NOTES.

Boston Psychopathic Hospital.

Dr. C. Macfie Campbell is spending the summer abroad attending various clinical congresses. He expects to spend two weeks with Prof. Jung of Zurich.

The hospital has just installed a complete dental outfit. One of the rooms on a first floor ward has been taken over and fitted up for such purposes. The equipment is quite complete and includes all the usual apparatus. The resident dentist will be appointed shortly.

In the July 21st issue of the Journal of the American Medical Association, Dr. Bowman and Dr. Grabfield reported a case of Myxedema in which the basal metabolism rate was minus fifty-six per cent. This is the lowest basal metabolic rate that has ever been recorded.

Dr. O. H. Cobb, Superintendent of the Syracuse State School for Feeble-minded at Syracuse, N. Y., spent the month of July studying at the Boston Psychopathic Hospital as a graduate student from the Harvard Medical School.

The Out-Patient Department of the Boston Psychopathic Hospital is open every week-day forenoon, with physicians in attendance from 9 to 1. New patients are received from 9 to 10.30.

The first function of this department is to render community service in as broad and practical a manner as possible. This includes general consultation work in relation to nervous and mental disorders; after-care of hospital patients; examination of special cases referred by social agencies, courts and others; together with the management of various mild and border-line mental problems by means of medical and social therapy.

With the resources available in this clinic, there is a second and hardly less important function to be served. This consists in carrying on research activities in some phases of neuro-psychiatry where the establishment of definite data may be of value. During the past six months, special attention has been given to the psychoneuroses with a view of determining just how valuable results can be obtained from out-patient psychotherapy. In order not to confuse the issue, practically no drugs or other physical methods are used in such cases; those needing definite medical attention being referred to general hospital clinics.

Psychotherapy requires a great expenditure of time. The amount given by the regular staff to an individual case must vary with the size of the clinic and other factors. Through the aid of some volunteer physicians doing special work in this department, it has been possible to deal with selected cases over a considerable period of time, seeing them regularly by appointment. Several have been given at least fifty hours of individual attention. Most of these patients are of the obsessional psychoneurotic type. One case of paranoia with a fixed delusional system of ten years' standing, without deterioration, was given equally intensive therapy. Contrary to expectations some of the most rigid delusions have disappeared. Whether results are to be permanent, and the amount of time given to the case justified, only the future can tell.

Children make up a large group of the department's clientele. An attempt is being made to study intensively from both medical and social standpoints a group of these interesting cases of nervousness and behavior difficulties. It is hoped that by following these children over a period of years, definite facts can be accumulated concerning the relation of nervousness in childhood to adult difficulties.

During the past year a number of medical students have spent a month or more in the Out-patient Department as part of the elective work of their fourth year medical course.

Conferences are held each Monday and Wednesday at 11.30 at which visiting physicians, social workers and others are welcome.

The Psychological Department of the hospital has of late been giving more time to Out-Patient work, and is prepared to supplement standard tests for intelligence levels with more detailed and special studies.

Prejudice against psychopathic clinics, formerly so much in evidence, is gradually decreasing under the publicity given by various agencies interested in mental hygiene. There are still unwarranted feelings on the part of both the public and the general medical profession that only cases of so-called insanity or near insanity should be referred. Of course this is not the case; the Out-patient Department is particularly applicable for the incipient and mild mental disorders included under the terms 'nervousness' and 'personality difficulties.' Continued publicity should gradually do away with this prejudice and thereby increase the usefulness of this department.

MASSACHUSETTS SCHOOL FOR THE FEEBLE-MINDED.

Clinics, etc., which have visited Waverley since Sept. 1922.

Seventy-four separate clinical groups have visited the School for training and instruction in eleven months.

1922.

Sept. 7 — 50 Boston School Nurses.
" 16 — Dr. Nichols. 20 Post-graduate Osteopaths.
" 26 — Smith College Social Service. Miss Jarrett's class of 10.
Oct. 14 — 15 nurses, N. E. Industrial Nurses Association.
" 17 — B. U. Medical Class.
" 20 — Prof. Skinner's class of 8.
" 24 — Miss Wright and 12 Radcliffe students.
" 26 — Miss Wright and Prof. Ham. 25 Harvard students and post-graduate students.
Nov. 8 — Dr. Viets, 9 Harvard Medical Neurological students.
" 10 — Simmons College. 40 Public Health Nurses.
" 15 — Prof. Norton's class. 3 students from Wellesley.
2 " Occupational Therapy.
" 16 — Group from St. John's Seminary, Brighton.
" 17 — Prof. Vaughan, B. U. 25 students.
Dec. 15 — 2 visitors from Wright School.

1923.

Jan. 10 — Prof. Schlagenhauf's class of 6. Northeastern University.
" 12 — " " " " 12. " "
" 15 — Dr. Cabot's Class of 80. Social Ethics, Harvard.
" 16 — " " " " " " " Radcliffe.
Feb. 5 — Tufts' College Senior Medical Class.
" 12 — " " " " "
" 13 — Harvard Graduate Medical (in Pediatrics)
" 15 — Group of 50 Framingham Normal School.
" 17 — Harvard Graduate School (weekly) through May. (16 days).
" 20 — Dr. Maynard Ladd's Class.
" 26 — Class in Social Ethics, Wellesley.
March 2 — 3 students from Dr. Maynard Ladd's class.
" 6 — 10 " " Miss Wheelock's School.
" 29 — Dr. Richard Smith — Graduate Class.
April 3 — Dr. Maynard Ladd's Class.
" 4 — Waltham Mother's Club.
" — Salem Normal School.
" 18 — Miss Walker and class of 11 students.
May 4 — Miss Neal's class of 35.
" 8 — Class of Economics, Wellesley. 20 students.
" 9 — " " Philosophy and Psychology, Wellesley.
" 15 — Waverley Parent-Teachers Association.
" School Teachers, 25.

1923.

May 16 — 25 students and teacher — Bradford Academy.
" 18 — Framingham Normal School, group of students.
— B. U. School of Religious Education.
June 6 — 43 physicians Essex County Medical Society.
" 7 — 9 nurses from Wrentham.
" 9 — Dr. R. H. Nichols' Class of physicians in Physical Diagnosis.
" 19 — Graduating class of nurses from St. Elizabeth's Hospital.
July 10 — Dr. Maynard Ladd's class in Pediatrics. Post-graduate physicians.
" 11–27 — Harvard Summer School. Class in Mental Measurements (10 days).
" 11 — Prof. Ford's class of 25 students in Social Ethics.
" 14 — Dr. Swift's class in Speech Defect.

Taunton State Hospital.

On April 4, 1923, there was opened in New Bedford an out-patient clinic under the auspices of the Taunton State Hospital. Before that time a clinic had been conducted in that city in order that those cases might be seen who had previously been inmates of the Taunton State Hospital. At the new clinic community cases were received and examined.

The first aim of the clinic was that of service. It was felt that if we were able to convey a small part of the teachings of our experience to the community, we would feel that we were carrying on a useful, constructive project. The experience of others, masters in their lines, teaches us that physical defects, in their early manifestations, are much more readily amenable to treatment than when these defects have become more severe or perhaps chronic. We are under the impression that this feeling is true in regard to mental cases. We have found that we are able to be of service to both children and adults and in a great many cases have been able to accomplish extremely favorable results.

The personnel of the clinic is made up of a clerk, a psychologist, two social workers, and a psychiatrist, and each is responsible for a certain very definite part of the examination. The clerk distributes the cases to the various workers, and so far as possible, we attempt to have on each patient a history taken by the Social Service Department, a psychometric test done by the psychologist, and a physical and mental examination done by the physician. As far as possible, in conducting the mental examination, Kirby's outline is being followed, but many times the outline must necessarily be distorted, depending upon the type of case examined.

The clinic fills a very definite community need. Since its inauguration in April there have been seventy-four different cases seen, and a total of one hundred and fifty-six visits to the clinic. The cases have arrived from agencies and from the courts, as well as those who have come of their own volition. The fact that the different agencies have continued to send new cases gives evidence that the work has been satisfactory, in certain cases at least.

Westborough State Hospital.

Camp Paine, named for the Chairman of the Board of Trustees at the Westborough State Hospital is the unique result of the necessity for finding temporary quarters for able bodied male parole patients while renovations of their wards were going forward three years ago, and has become so popular with the patients that it is as much a feature on the slope overlooking Lake Chauncey as the institution itself. The Camp even if thought of probably would have resembled a gipsy aggregation if the Superintendent, Dr. W. E. Lang, had not been in service during the late war, and had exact memories of how a military camp site should be chosen, organized and discipline maintained.

This plot of ground allotted for the tentage is about an acre in extent midway between the main building and the lake on rolling ground sloping toward the water, facing the east. A headquarters and day tent with wooden flooring 16′ × 48′ is fitted with chairs and tables and lighted by electricity as are the sleeping and sanitary tents. In front of this is the flag pole from which floats the stars and stripes, with appropriate ceremonies morning and evening as it is raised and lowered.

Down the company street are the sleeping tents, four on each side, each containing eight iron framed beds with definite spaces between them and each bed has an extra frame for mosquito netting. Each tent is supplied with wily fly paper strips dangling from the ceiling to rid the sleepers of fly pests. Continuing to the end of the street which is carefully mowed with the lawn mower and diligently policed, is the sanitary tent with a row of flush closets along one side, a long sink in the center of the tent with many faucets, and towel racks with an ample towel supply and mirrors, beside which brushes and combs swing on chains to supplant those the troopers may not have in their pockets.

The bugle is blown at 6 A.M. and all hands turn out at 6.15. After their ablutions have been performed and their beds opened and set in order, they file into the main building for breakfast.

The day is spent at their occupations and they return to camp after supper to read or play games and smoke until taps at 9 P.M.

The health of the camp has been exceptional: not one patient has been ill during the camping season and gain in weight has been recorded in a large number of cases. A former sergeant in the Army is in charge of the Camp and with patient corporals maintains the discipline expected.

CHANGES IN STAFF.

Franklin I. Flagg, M.D., appointed assistant physician at the Boston State Hospital in January, 1923.

Rollin V. Hadley, M.D., appointed assistant Superintendent of the Westborough State Hospital in February, 1923.

John A. Holland, M.D., resigned in April 1923 as assistant physician at the Gardner State Colony.

Marianna Taylor, M.D., promoted from the position of assistant Medical Officer at the Psychopathic Hospital to Medical Officer.

Max Bennett, M.D., appointed assistant Executive Officer at the Psychopathic Hospital in February, 1923.

George E. Daniels, M.D., appointed Medical Interne at the Psychopathic Hospital in March, 1923.

Wilmarth Y. Seymour, M.D., resigned June 30, 1923, as Senior Assistant Physician at the Foxborough State hospital.

Lewis B. Hill, M.D., appointed Senior Assistant Physician at Foxborough State Hospital, July 1, 1923.

Jacob Kasanin, M.D., appointed Assistant Physician at Boston State Hospital, July 5, 1923.

Edgar C. Yerbury, M.D., promoted from Assistant Physician to Senior Assistant Physician at the Westborough State Hospital.

Lloyd E. Byrd, M.D., resigned as Assistant Physician at the Worcester State Hospital, June 6, 1923.

Carl Oberg, M.D., appointed Assistant Physician at the Worcester State Hospital, June 16, 1923.

Harry A. Schneider, M.D., appointed June 1, 1923, at Gardner State Colony.

Dr. Herman E. Danofsky, appointed June 1, 1923, as Dentist at Gardner State Colony.

O. R. Blair, M.D., resigned on June 30 as Assistant Physician from the Northampton State Hospital.

A. B. Williamson, M.D., appointed as Assistant Physician at Northampton State Hospital on May 15, 1923.

H. Wilbur Smith, M.D., appointed as Assistant Physician at Grafton State Hospital.

James L. McAuslan, M.D., appointed Assistant Physician at Grafton State Hospital.

Buel L. Ashmore, M.D., appointed Assistant Physician and Pathologist at Grafton State Hospital.

Frederick L. Parker, M.D., resigned as Pathologist at Taunton State Hospital, June 24, 1923.

T. L. Houlton, M.D., resigned as Assistant Physician at the Psychopathic Hospital, Aug. 15, 1923.

H. P. Pfeiffer, M.D., resigned as Assistant in the Department of Therapeutic Research at the Psychopathic Hospital, Jan. 1, 1923.

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BULLETIN

OF THE

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WALTER E. FERNALD, M.D.
GEORGE M. KLINE, M.D.
DOUGLAS A. THOM, M.D.

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SELECTED MEDICAL AND SCIENTIFIC STUDIES.

PUBLIC CORRECTION AND ITS RELATION TO MENTAL HYGIENE.

By Herbert C. Parsons,

DEPUTY COMMISSIONER OF PROBATION, COURT HOUSE, BOSTON.

The more swiftly public correction comes to be recognized as hygienic the sooner will its problems reach solution. Institutional correction is in the throes of adjustment of ancient notions of punitive restraint to new conceptions of therapy. It is so far unsettled that no one has a clear vision of what a state prison, for instance, should be like. There is a fully warranted fear that whatever is done in stone and steel to-day will look absurd if not atrocious in fifteen or twenty years. Such an uncertainty is a token of the advance towards treatment and away from unhelpful custody and, as well, of groping for the material expression of a rational balance in plans and specifications.

Somewhat the same conflict goes on in non-institutional correction. This is the modern field and has come to be the larger one in those states where it was the earliest opened and where its possibilities have been most freely tested. Its existence and numerous occupancy attests the purpose to bring about cure of behavior by individual treatment. Here the progress is away from the trying-out of the offender on a bare chance of his changed conduct under a measure of supervision towards a dealing with him according to his needs.

Inescapably both these lines of advance presently converge with the track of mental hygiene. The point of convergence is indicated in the legislative acts providing for interplay between the correctional institution and the courts, on the one hand, and the departments for the study and care of the mentally disordered and defective on the other. Increased facilities for examination and observation have come and are coming. Definite provisions for reference of cases are added. Authorization of the courts to consider the mental element is given in such notable instances as the defective delinquent law. And more significant still is the compulsion put upon the courts to refer repeated offenders to the appropriate department for determination of the mental element in continued criminality.

Correctional people watch with only mild concern the shifting opinion among the mental experts as to the extent of the accountability of mental disorder and defect for criminal conduct. They accept without shock the demonstrations that the feeble-minded are not necessarily law-breakers. They had reached some such confidence out of their practical experience before the statisticians and philosophers in the mental field proved in an exact way that the curve of behavior in the feeble-minded rather closely follows that of the normal. It does not much matter what the behavior of one or another group is found to be.

Such discoveries have their professional and social values but they do not apply to the business of dealing with the wrong-doer. If the feeble-minded are generally well-behaved, it follows that they are not known to the courts. The courts have, however, a lively interest in the question whether the offender brought to them is feeble-minded and his criminal act is due to that handicap. Not do the feeble-minded behave, but is this bad behavior feeble-minded, is the question.

Nothing can now shake the court and correctional people from the belief that much of their problem is linked with mental and nervous disorder and effect. The whole service of psychiatry has been to direct their attention to this fact. They do not have to go afield for the evidence. It is presented to them in any morning's population of the dock, any day's intake at the prison. It only waits to be measured and the relation of offending to the established fact of a mental status estimated as a basis for disposition of the case.

Now the consciousness of this relationship at the very heart of the problem is unfortunately a sort of sub-consciousness which fails to motivate at the required moment. Accepted as a general principle, it does not get related to the individual case except under the challenge of a conspicuous outward appearance. It is general as a fact, but exceptional in its use. Hardly more than a start has been made along a definitely chartered road.

In a survey now being made by the Mass. Commission on Probation covering the subsequent careers of persons placed on probation from eight to nine years ago some 3,000 cases are under examination. In not one of them does it appear that the court caused a mental examination to be made. Later histories reveal that there was a mental condition then existing which should have clearly indicated another treatment. It comes out in an eventual prison commitment where, almost by chance, the truth is discovered; or in such a development as compelled examination and brought commitment to the insane hospital or school for the feeble-minded; or in such a wavering, burdensome career as supplies its own proof that there was an initial trouble which the court made no effort to discover. What would have been saved the commonwealth and what misery would have been spared the person by inquiry at the first appearance as a public problem is beyond calculation. Quite back of that, what would have been gained, publicly and personally, by an approximately efficient observation of deviations from the way of the mentally normal is another enormous charge against the public account.

The present situation is that there is ample agreement that the courts should know the degree of mental acountability in the offender and should direct his course according to this knowledge, but that the agreement is not evident in the common practice. Allowance has still to be made for the insufficient facilities so far supplied for examination and observation. Whether anything short of a provision by each court as a part of its mechanism will ever fully meet the need may be questioned. Short of that, there is the fuller supply by the state of the means for this professional service. With what exists there is opportunity which the courts have not embraced. The sense of relationship between the two public services is still far short of acute, and the interplay is too nearly exceptional.

There is an example of the state's concern in a special class which may be taken as offering a guide to the future as to all offenders. When a juvenile is to be brought before the court in its special session, the law requires that the department of public welfare shall be notified so that it may be represented by an agent. In a majority of the courts, the agent is the main reliance for the court's help in its disposition. The provision is older than that for juvenile probation officers and very widely is the major feature, while in all the courts this presence is ordinary. The agent is there as a child expert. There is no assumption of authority on his part and no resentment of his presence in the privacy of a juvenile hearing. The court is not affronted; it is generally helped and knows that it is. Give the same recognition to the existence of the element of under-mentality that is given to the element of under-age, and the presence of the expert as an aid to the court as an ordinary and required feature of proceedings has the same warrant.

The question may well be raised, the interrelation of these fields being finally recognized, whether the next steps are the further development of facilities and the cultivation of the sense of the need of using them, or a provision of law that every court session shall have present a representative of the department maintained by the state to serve the vital interests of discovery and treatment of mental disorders and defects.

OPERATIVE SURVEY IN MASSACHUSETTS STATE HOSPITALS FOR THE INSANE.

Dr. George O. Clark,
CONSULTING SURGEON, MEDFIELD STATE HOSPITAL,
AND
Dr. George E. McPherson,
ASSISTANT SUPERINTENDENT, MEDFIELD STATE HOSPITAL.

About 1915, Dr. George O. Clark, after his assumption of office as Trustee of the Medfield State Hospital (one of the fifteen State Institutions for the care of mental cases) became convinced that the greatest service he could render to the patients in the hospital would be along the lines of operative relief to such as needed major surgical procedures.

At Medfield such measures were instituted, Dr. Clark contributing gratuitously his surgical services, and to date eighty-five (85) patients and seventeen (17) employees have undergone major surgical operations. A survey of the work done at this hospital covering a period of approximately the last five years, demonstrates definitely certain facts and may be taken as a basis for considering in its true light the relationship that surgery bears to the rational treatment of patients suffering from mental disease.

What proportion of Massachusetts State Hospital patients require surgical treatment? At the Medfield State Hospital, with a total population of two thousand (2,000, — 1,700 patients and 300 employees) it was found that the incidence of major surgical diseases within the hospital approximated that in the ordinary community of similar size and age average, and warrants the belief that a similar incidence of disease obtains in the other State Hospitals.

The preliminary examination of the nine hundred (900) women at the hospital revealed thirteen (13) tumors of the breast, ten (10) of which proved to be malignant. Approximately thirty women and men had herniæ, some of incapacitating size or location, two necessitating emergency operations because of strangulation. Appendicitis, diseases of the gall-bladder, and diseases of the female pelvic organs form the majority of other conditions operated upon.

How does Massachusetts provide for her insane patients requiring surgical treatment? At the commencement of this operative work at Medfield no special facilities or equipment were at hand even for emergency major surgical work. A room twenty feet square, on one of the admitting wards, was preëmpted for this service and essential equipment improvised. Subsequently a special infirmary building was provided which houses a well-equipped modern operating room, etherizing room, dental department and pharmacy on the first floor, single rooms and a ward on the second floor.

The successful outcome of the earlier operations in the improvised surgery on the ward indicated that, with proper care, an elaborate equipment may not be absolutely necessary, but speed, comfort and the convenience of all concerned demand modern apparatus and technique. This special infirmary has proven of inestimable value and similar equipment should be instituted and available at each of the other State Hospitals for the Insane.

What has been the operation mortality of surgical work at the Medfield State Hospital? The following data have been compiled from the hospital records. No patient, other than such as presented a grave surgical emergency, has been operated on till written consent from the guardian or proper relatives has been obtained.

I. Operations on the Digestive Tract.

(*a*)	Appendectomy Acute 6; Chronic 6; routine 19.	31
(*b*)	Gastrojejunostomy	2
(*c*)	Pylorectomy	1
(*d*)	Cholecystectomy	9
(*e*)	Choledochotomy	2
(*f*)	Cholecystoduodenostomy	1
(*g*)	Cholecystostomy	1
(*h*)	Herniotomy Inguinal, 9; Umbilical, 1.	10
(*i*)	Resection of sphincter ani with obliteration of Douglass' pouch	1
	Total	58

Of this group two patients died, one after cholecystostomy from hæmorrhage caused by the patient pulling out drainage apparatus while her special nurse was out of the room. This patient had been ordered left in camisole, but seemed so docile that on the second day, contrary to orders, a kind-hearted attendant had removed the restraint. The other death was from broncho-pneumonia (ether ?) and occurred five days after operation for prolapsed rectum and uterus.

II. Operations on the Genito-Urinary Tract.

(*a*)	Salpingectomy Single 4; double 13.	17
(*b*)	Oophorectomy Single 8; double 13.	21
(*c*)	Hysterectomy Supravaginal 9; complete 1; vaginal 1.	11
(*d*)	Hysteropexy	7
(*e*)	Myomectomy	3
(*f*)	Perineorrhaphy	1
(*g*)	Dilatation and curettage	5
(*h*)	Cauterization of cervix	1
(*i*)	Urethrotomy, external	1
(*j*)	Urethrotomy, with urethrostomy	1
(*k*)	Cystoscopy	1
	Total	69

The only operative death of this group is that of the same patient reported as the second fatality under Group I. All the others made satisfactory recoveries. The average age of patients for whom hysterectomies were done was forty-three (43) years, and it is of interest to note that this operative relief means for eleven (11) patients increased comfort during what for them will probably be many more years of life in the hospital. One patient after hysterectomy so improved mentally that she was discharged to her family over two years ago.

III. Exploratory Laparotomies.

(*a*)	Inoperable cancer of uterus	1
(*b*)	Intestinal obstruction (volvulus)	2
(*c*)	Drainage for retrocaecal abscess (perforation of caecum)	1
	Total	4

Of these there were no operative deaths. Case "a" lived only five months after exploration, autopsy revealing metastases in liver and lungs. Case "c" was opened and drained. Several days later an ordinary pin, greatly corroded, was discharged from the wound. This pin, swallowed by patient, had perforated the caecum inducing the retrocaecal abscess.

IV. OPERATIONS ON THE BREAST.

(*a*) Amputation with dissection, of axilla (malignant)	10
(*b*) Exploration with excision of tumor (non-malignant)	3
Total	13

One operative death from Septicaemia followed radical operation. Two others died of general carcinomatosis, one about eight weeks, the other over four years subsequent to radical operation, the latter having, at several periods, undergone secondary excisions of local recurrence.

In addition to prolongation of life in these malignant cases, the nursing care of impending ulceration with its attendant distressing features was avoided.

V. OPERATIONS UPON HEAD OR FACE.

(*a*) Depressed fracture of skull	1
(*b*) Excision of cancer lip 1; nose 1; forehead 1.	3
Total	4

In the case with the fractured skull the injury proved fatal before a rapid emergency operation, under special anesthesia, could be completed. The remaining cases in this group were also treated by radium at the Huntington Hospital and are free from recurrence.

VI. AMPUTATIONS.

Finger 1; arm 1; thigh 1	3

The thigh case suffered from arteriosclerosis and gangrene of the leg. He died five days after operation from bronchopneumonia.

VII. MISCELLANEOUS OPERATIONS.

(*a*) Excision ischiorectal fistulae (multiple)	1
(*b*) Excision fibrosarcoma (thigh)	1
(*c*) Excision carbuncle (extension)	1
(*d*) Excision lipoma (back)	1
(*e*) Excision tumor (chest wall)	1
(*f*) Resection of sternum (Tb.)	1
(*g*) Resection of rib $^a/_c$ empyaemia	1
Total	7

Of these patients a number were of advanced ages (youngest 35, oldest 75, average 50.7 years).

It is a matter of considerable interest and pride that, under the definite disadvantages encountered in doing this work, although in five years with 102 patients upon whom operations were performed (an average of two per month), there have been only five operative deaths.

What difference, if any, is apparent between surgical work for the insane at the Medfield State Hospital and similar work for the non-insane in the average well-equipped hospital? There seems to be no doubt that insane patients occasion, during post operative convalescence, either less concern than do the non-insane or else much more. The great majority have been well-behaved and co-operative, although some have had to be placed in restraint to keep them in bed or away from dressings. Reference has already been made to the death occasioned by failure to continue restraint for a sufficiently long period.

As the insane, owing to an obtunded sensorium, are less prone to complain early of pain, so are they far less helpful to the physician in his attempt to elicit a medical history and to evaluate physical signs. The net result is apt to be delay in rendering early surgical aid. While care during operations, dressings, and post-operative convalescence does much toward reducing pain and discomfort, there is no doubt that the insane are generally less acutely disturbed by procedures usually causing distress than are the non-insane.

What, if any, improvement can be expected in the insane after surgical operation? As recently as 1918, a sensation was created through press reports of what tonsillectomy and other operations would do to cure various forms of mental disease. Apparently the furor then created has subsided. At the Medfield State Hospital tonsillectomies have not been included in the major surgical procedures. Improvement should be considered under the headings Mental and Physical.

As a panacea for mental disease no claims can be made for operative surgery. In those patients who were extremely demented, little if any improvement in mental condition was brought about by surgical relief from the physical ailment, though even these became less of a care from the nursing standpoint as well as from that of personal hygiene. A great many, however, were very appreciative of improved physical states, having fewer complaints, and living their lives with happier outlook.

The mental conditions of the great majority were not decidedly influenced, although a small number did make distinct mental improvement coincident with the physical. Typical of this latter group may be cited the case of a man who had suffered from hernia, being irritable, grouchy and unwilling to employ himself. He had been regarded as a rather hopeless case, simply standing still. Relief from his hernia enabled him to get about with greater freedom. He was given parole of the grounds and soon was encouraged to take up his old trade, that of mason, and work with the hospital mechanics. His outlook has broadened, his attitude towards his surroundings has improved, and at this writing he has been allowed to go to his relatives at home where he is working at his old trade.

Many patients, especially among the women, have been rendered physically comfortable and able to accept the opportunities afforded by parole privileges about the grounds; thus, by increasing their contentment, surgery indirectly affected favorably their mental states.

In conclusion, every case operated on has conclusively proven surgery to be an important aid in the constructive and progressive care of the insane — not as a panacea for mental disease — (which it cannot be) but as a means of diminishing, or relieving, certain physical states which have been in varying degree incapacitating or aggravating.

In the light of this experience at Medfield, it is of interest to inquire concerning the status of and provision for surgery in the other State Institutions under the supervision of the Department of Mental Diseases.

Herewith are shown two charts, the first giving a list of operations performed in the various institutions of the State between the years 1915 to 1920 and the second a survey of present facilities for surgery in the same institutions.

CHART I. — *Surgical Operations — 1915–1920 — in Mass. State Institutions under Supervision of the Department of Mental Diseases.*

OPERATION.	Boston Psychopathic Hospital.	Boston State Hospital.	Danvers State Hospital.	Foxborough State Hospital.	Gardner State Colony.	Grafton State Hospital.	Medfield State Hospital.	Northampton State Hospital.	Taunton State Hospital.	Westborough State Hospital.	Worcester State Hospital.	Monson State Hospital.	Mass. School for the Feeble-minded.	Wrentham State School.
Appendectomy, acute	"Only minor surgery done in well-equipped operating room. Major surgery done at P. B. B. Hospital."[1]	"Most of these operations performed at the B. C. H."[2] 1	7	"No major surgical operations. No provision for surgery at present. Complete equipment planned."	2	–	6	"No provision for major surgery at hospital. Patients sent to Tewksbury Infirmary or to general hospital."	"Patients sent for major surgery to local or to Boston Hospital."	3	1	"52 cases operated on in 5 years. 2 deaths." –	"Equipped to do major surgery, but send all serious cases to other hospitals."	1915–1920 — 9 major operations — (8 mastoidectomies; 1 herniotomy). 180 Adenoidestomies and Tonsillectomies. 1 Death (Mastoid).
Appendectomy, chronic		–	–		4	5	6			–	–	–		
Herniotomy, strangulated		1	–		2	–	1			–	4	–		
Herniotomy, other forms		4	1		2	5	9			5	–	8		
Cholecystostomy		–	–		–	–	1			–	–	1		
Cholecystectomy		1	–		–	–	9			–	–	–		
Choledochotomy		–	–		–	–	2			–	–	–		
Cholecystenterostomy		–	–		–	–	1			–	–	–		
Gastroenterostomy		1	–		–	–	2			–	–	–		
a/c Intestinal Obstruction		–	–		–	3	2			–	–			
Dilatation and Curettage		–	–		–	6	5			–	–			
Hysteropexy		–	–		–	1	7			–	–			
Hysterectomy		2	–		–	–	11			4	–	4		
Operations on Tubes and Ovaries		2	2		–	4	38			6	1	4		
Other Laparotomies		2	–		–	1	6			–	–	4		
Amputations, digits		–	–		1	1	1			–	3	–		
Amputations, foot		1	–		–	–	–			–	–	–		
Amputations, arm		–	–		–	–	1			–	–	–		
Amputations, thigh		2	–		–	–	1			–	–	–		
Amputations, Breast a/c Cancer		–	1		–	3	10			1	–	1		
Tonsillectomy		–	–		–	12	–			–	–	18		
Operation a/c Hæmorrhoids		–	2		–	–	–			–	–	12		
Other Operations		6	14	–	8	9	39			4	22	–		
Mortality (per cent)	–	0	0	0	15	0	4.9	0	0	0	0.3	4	0	11.

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[1] Peter Bent Brigham Hospital.

[2] Boston City Hospital.

CHART II. — *Chart showing Surgical Equipment and Other Data in Mass. State Institutions under Supervision of the Department of Mental Diseases.*

	Boston Psychopathic Hospital.	Boston State Hospital.	Danvers State Hospital.	Foxborough State Hospital.	Gardner State Colony.	Grafton State Hospital.	Medfield State Hospital.	Northampton State Hospital.	Taunton State Hospital.	Westborough State Hospital.	Worcester State Hospital.	Monson State Hospital.	Mass. School for the Feeble-minded.	Wrentham State School.
Equipped for Surgery*	E	E	E	Plans	F	G	E	0	P	E	F	E	E	E
Regular Consulting Staff** . . .	+	+	0	0	0	+	+	0	0	+	0	+	0	+
Method of Discovering Surgical Cases***	1	2	2	3	2	3	2	3	3	1	3	1	3	3
Are major surgical procedures for the Insane advisable and practical? Opinions of Superintendent .	Yes	Yes	Yes	Yes	Yes	Yes	Yes	If Equipped	As Emergencies	Yes	Yes	Yes	Yes	Yes

KEY.

*Equipped for surgery means special quarters with modern sterilizing apparatus. E=excellent; G=good; F=fair; P=poor.

**Regular Consulting Staff means visiting hospitals regularly, or when called, or to whom patients are referred.

***(1) Systematic search in effort to discover early.
(2) Periodic physical examination at regular intervals.
(3) Only when emergencies arise.

The attitude of the Superintendents of the State institutions may be illustrated by the following quotations:

"I feel very strongly that an exceedingly careful search should be made in all cases for the presence of lesions which may be corrected by operative procedure, as I am of the opinion that the removal of any physical irritation is bound to react favorably on the mental condition, as has been definitely shown in many cases in my personal experience." — W. E. LANG.

"If we had a surgery and good equipment, and if our staff were full and we had a full complement of nurses, I think it would be advisable to carry on all surgical operating procedures at the hospital as a part of our routine." — J. A. HOUSTON.

"Personally, I feel that an institution should not be known as a hospital unless it has facilities for surgical work." — J. V. MAY.

CONCLUSIONS.

I. Surgery is practical and advisable for the insane with operable conditions.

II. The institutions not equipped to render surgical treatment to their patients should be provided with suitable equipment. Such equipment should consist of:

(*a*) Local modern sterilizing apparatus.
(*b*) Operating room. Etherizing room.
(*c*) Sufficient staff of residents and nurses.
(*d*) Regular consulting or visiting staffs of specialists,

Or

Ready access to nearby general hospital where modern surgical treatment can be rendered to all who should have it.

III. Greater effort should be made to extend the benefits of surgical treatment to all patients in the State institutions who may have operable conditions. Probably this can be best done by:

(*a*) Physical examination on entrance.
(*b*) Periodic physical examinations, say at six month intervals.

(*c*) Systematic reference to visiting or consulting specialists of all patients with surgical ailments.

(*d*) Instruction of nurses and attendants to observe patients when bathing, with particular care to report swellings, lumps, sores or other gross abnormalities.

IV. Such surgery as has been provided for the patients who have had operations has been accompanied by such a low operating mortality that the quality of surgical work provided needs no further comment.

V. The autopsy records available are conclusive proof that many patients have died carrying with them conditions alleviable by surgery, the benefit of which they did not receive during their life in our institutions.

VI. The fact that some patients, of long residence in our hospitals, are seen with cancer at a stage that when presented to the surgeon is already too far advanced to be surgically operable is ample proof that we must institute methods of detecting such cases earlier.

THE NEW SAINT ELIZABETHS HOSPITAL

By Dr. Wm. A. White,

SUPERINTENDENT, WASHINGTON, D. C.

In the April issue of the American Journal of Insanity for 1910 I published an article entitled "The New Government Hospital for the Insane". The reason for this article was that there had been recently completed a million-and-a-half dollar addition to the institution comprised of some fifteen buildings, and the reorganization of the institution necessitated by this large addition had produced results of sufficient interest to record in this way. The hospital continued to function under this organization until the war, when the demands that were made upon it from all angles, were so great, that it suffered seriously in both its personnel and its physical equipment. Many of the old-time employees and faithful officials of the hospital left its service during this period and the draft so reduced the ranks of the general mechanical force that by the end of the war the organization and equipment had been reduced to a serious pass. It was these circumstances that developed the need of reorganization. It is the results of this reorganization, at least in those outstanding features which are of interest, medically and scientifically, that I wish to record in this article.

The outstanding special features of this organization are dependent upon two fundamental conditions relating to this hospital, namely its large size and its rapid growth. The latter of these conditions necessitated an organization which was sufficiently flexible so that it could be progressively adjusted to the increasing size of the institution and its consequent increasing complexities. The large size of the hospital is of fundamental importance because I am convinced that no small institution for mental diseases can adequately function, because the number of agencies which have to be brought to bear upon this problem is at present so large that it would be economically impossible for any small institution to undertake to utilize them. It is only the large institution that can by any possibility absorb the top cost that is necessary to utilize these various agencies without having its per capita raised so high as to make it impracticable. St. Elizabeths Hospital has approximately four thousand patients. On this date (May 11th, 1923) the actual number is 4,124. I doubt very much if an institution materially smaller than this could maintain all of the agencies necessary for coping with mental illness at a per capita that could be successfully defended before appropriation committees of legislatures. The present per capita of this hospital is $511 as against $240, which was the per capita maintained for a number of years before the war, an increase of a little over 100 per cent. So that it can be seen that we are surely approaching expenditures beyond which it would be impracticable to attempt to go at this time. The size of an institution necessarily depends upon many factors, but from the point of view of economy in the purchase of supplies I believe the minimum size should be a size sufficient so that the institution can purchase its supplies in carload lots. From the point of view of the expense in caring for the patients the size should be regulated by the final per capita cost. Another advantage of a large institution is that with a large staff, (approximately 50 physicians at this hospital) it is possible to bring to the care of any individual patient all sorts of points of view and professional skill, and in the conduct of the institution to classify and distribute the medical staff at work in which they are most interested in doing and therefore will do best.

With these preliminaries, I will indicate the features of our organization of greatest interest and also indicate something of the medical and scientific results which this organization in its functioning is producing.

The accompanying diagram illustrates the functional relations of the various medical and scientific divisions of the institution and can be advantageously referred to in connection with the following discussion.

It will be noted that the main features of this organization are, aside from its separation into various specific activities, first, that the medical administration as such is, as far as possible, separated from the highly specialized medical and scientific activities, and that the several activities, professional and scientific, instead of being diffused indefinitely, are concentrated in special departments.

In regard to the medical administration, the hospital is divided into several services, each one of which is presided over by a senior assistant physician, whose main qualifications are his administrative ability and his psychiatric experience. These services are correlated and integrated by the clinical directors, one male and one female, each one of which, through the service heads, supervises the care of all of the patients on his or her side of the house respectively.

The strictly professional and scientific activities are grouped as follows: All of the intensive work addressed to the mental condition is handled by the department of clinical psychiatry, with a chief and associates. The psychiatrists who have specialized largely in therapeutic procedures, being relieved, as is not usual in institutions of this sort, from the large burden of administrative duties involving numerous letters, notes and discussions with relatives, are thus able to devote themselves intensively to the problems of therapy.

The problems of physical illness are grouped in the department of internal medicine, which is headed by a chief and associates. This department is centrally housed in a building of 140 beds capacity, which is equipped and run precisely as a general hospital. To this building everyone who is physically ill and requires either medical or surgical attention is transferred. The department of internal medicine has also the responsibility for the care of the tuberculous and its activities are being extended to the improvement of the care of what have in the past been called infirmary cases.

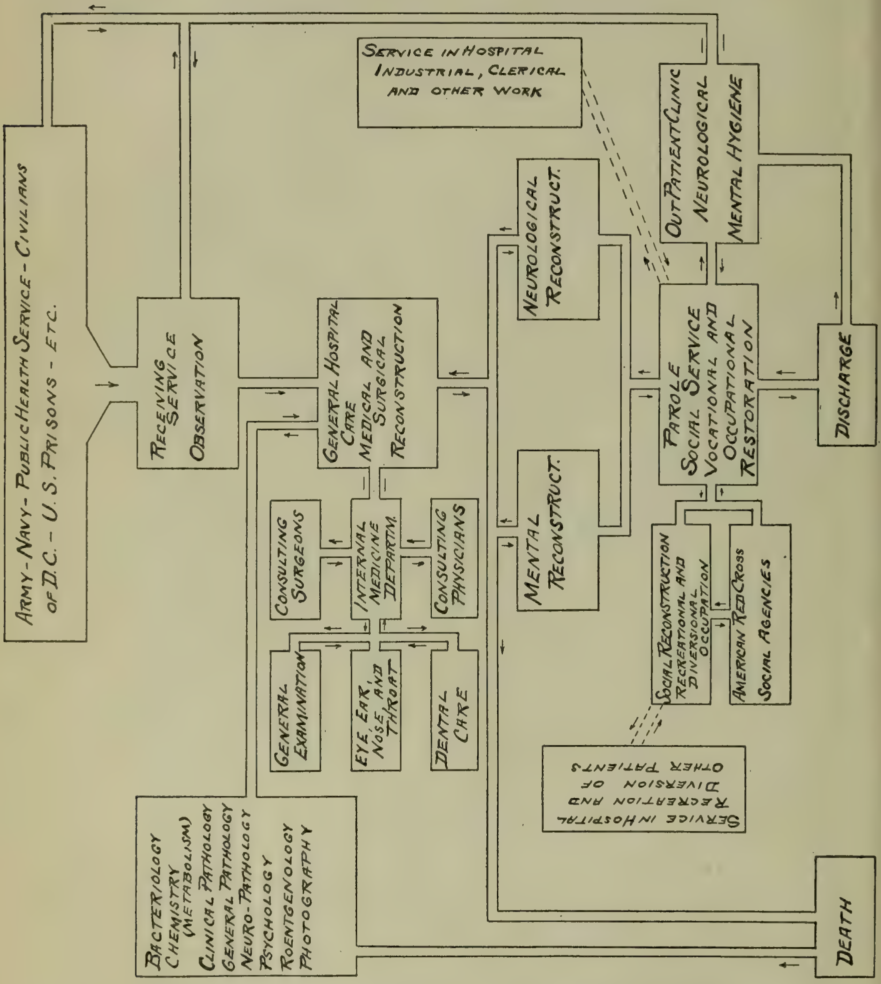
The laboratory activities are grouped together under a director of laboratories.

In addition to the above and to the training school for nurses, which is similar in its organization and activities to training schools in State hospitals, there is a special school of instruction for attendants, and this year there was organized with the cooperation of the Veterans Bureau a course of instruction in neuropsychiatry for equipping the physicians who are to be stationed in the Veterans Bureau neuropsychiatric hospitals. At this date 44 physicians have finished the course. In addition to this, the hospital has trained during the past year some 30 nurses and the same number of social workers, also for the Veterans Bureau.

In addition to all of the above there is a special department at the present time addressed to the care of the Veterans Bureau patients and which is at present being financed by the Veterans Bureau, although under the control and management of the hospital. The reason for this is that the immense influx of Veterans Bureau patients, approximately one thousand, was too much to be wholly cared for by the hospital on the basis of its usual appropriations.

There is also maintained at the Hospital a Red Cross unit, which functions largely as a social and recreational center and has attached to its personnel an athletic director who trains the patients in various athletic pursuits, games, etc. The Red Cross unit serves the hospital in addition through its home service section in contracting with patients and their relatives outside the District of Columbia.

HOSPITAL CARE AND SUPERVISION


Army-Navy-Public Health Service-Civilians of D.C.-U.S. Prisons-etc.
Receiving Service Observation
General Hospital Care Medical and Surgical Reconstruction
Service in Hospital Industrial, Clerical and Other Work
Neurological Reconstruct.
Mental Reconstruct.
Out Patient Clinic Neurological Mental Hygiene
Parole Social Service Vocational and Occupational Restoration
Discharge
Consulting Surgeons
Internal Medicine Departm.
Consulting Physicians
General Examination
Eye, Ear, Nose and Throat
Dental Care
Social Reconstruction Recreational and Diversional Occupation
American Red Cross Social Agencies
Service in Hospital Recreation and Diversion of Other Patients
Bacteriology
Chemistry (Metabolism)
Clinical Pathology
General Pathology
Neuro-Pathology
Psychology
Roentgenology
Photography
Death

The specifically medical and scientific activities which are expressed in the organization above briefly outlined and grouped in accordance with the various departments which prosecute them are as follows:

The department of internal medicine is divided into two services, surgical and medical, and the latter again divided into acute and chronic services. The acute medical service takes care of the contagious wards, and the chronic service the tubercular wards. The surgical service also is responsible for the dispensary, the urological clinic and the syphilological clinic.

A third entity is the dietary department in which we are now able to prepare all special diets such as the diabetic, nephritic, cardiac, post-operative, diets for metabolism work, and special diets for use in connection with certain endocrinological work.

The X-ray department is in close liaison with the medical and surgical work and provides also bedside equipment for a considerable amount of radiographic work on the wards.

There is a urological clinic twice a week at which in addition to the special work being done there is a routine examination of the genito-urinary system of all new admissions to the institution with a few exceptions.

There is now being carried on an experimental treatment of paresis by inoculation with the benign tertian malarial parasite.

The study of endocrinopathies, started a little over two years ago, is being continued.

Several phases of electro-therapy have been in use for about a year and have shown some very excellent results.

There is being carried on some fairly extensive work in the estimation of the rate of metabolism in certain conditions and we are well equipped for a continuation of this work.

The psychological laboratory, under the direction of the Director of Laboratories, in addition to the continuation of work on reeducation, three investigations in connection with the work in the psychological laboratory have been in progress. It is expected that the work on the reeducation investigations of cerebral paralytics and on some cases of aphasia will be ready for publication at an early date.

As an extension of the work which has been in progress for a number of years on the possibilities of cerebral compensations continued investigation on memory defects in senility is being prosecuted. The results of this investigation show that it is possible for the senile to learn, but there are very great differences in individuals. Those individuals who from a general examination appear to be most demented are not those that have difficulty in their acquisition and adjustment to new situations.

In continuation of the investigations of the phenomena of recovery following paralyses due to destructions of portions of the brain there is being carried out a series of experiments on white rats to determine some of the fundamental conditions of compensation in relation to the different portions, cortical and sub-cortical, of the brain.

Under the direction of the director of the laboratories, an experimental investigation of the measurement of impulses or drives has also been completed and will shortly be published. In this work white rats have also been used because of their availability. Measurements of the intensities of the food and sex drives have been made and compared. In view of the recent emphasis upon the various kinds of instinctive behavior these experiments are of great interest. They have shown how various drives may be inhibited and how they are mutually antagonistic.

The types of original investigation in process at this date, under the direction of *the department of clinical psychiatry,* are:

1. Pharmacodynamics of the vegetative nervous system in the various psychoses of females. (Problem correlative with mental phenomena).
2. Study of the psychoses in negroes with an attempt to classify disorders from the standpoint of a special racial standard.
3. Histopathologic study of the alterations in the choroid plexus of the brain from those with degenerative mental disorders.
4. An investigation of the autoerotic components of the three anxiety states

(hyperthyroidism, anxiety neuroses and agitated depressions) all of which have some features in common.

5. Histopathologic investigation of the mammary tissue from all female patients coming to autopsy — (Glandular hypertrophies and atrophies are here investigated).
6. A psychological and physiological study of experimental delirium.
7. An investigation into the archaic symbolism as expressed in art and in several of the psychoses.
8. An experimental study of the rate of blood flow through the extremities of dementia precox and allied states.
9. A study of the criminal constitution. (This investigation has been actively carried on for three years and is nearly completed).
10. Studies on the abnormal reactions of the psychotic individual as indicated by psychometric tests.
11. Histopathologic studies on the nature of the metastases in secondary carcinoma of the brain. (Nearly completed).

The above problems neither include those completed during the past year (but not yet published) nor those which are to be instituted within the next six months.

In addition to these problems it may be well to mention the work completed during the past year.

1. Studies on the organic components of paranoid, epileptic, arteriosclerotic and senile, manic depressive and syphilitic psychoses — (Not published).
2. The Constitutional Factors in Dementia Precox, etc. (Lewis). (Nervous and Mental Disease Monograph Lines No. 35).
3. Hirschsprungs Disease and Mental Disorder. (Lewis — published in Journal of Nervous and Mental Disease).
4. Pathology of Gall Bladder Sarcomata. (Lewis and Reuter — published in the New York Medical Journal.)
5. The pathology of Dementia Precox and of Paranoid Developments — (Lewis — Published in May 1923 issue of Southern Medical Journal).
6. Congenital Abnormalities of the Kidneys in Mental Disorders (Lewis — Published in July 1923 issue of the American Journal of Psychiatry).
7. Psychoanalytic Studies of Hyperthyroidism — (Lewis — published in The Psychoanalytic Review).
8. Critical review on Stupor and Allied States. (Karpman — published in The Psychoanalytic Review).
9. The Mental Symptom Complex Following Cranial Traumata. (Hadley — published in the Journal of Nervous and Mental Disease).
10. Automatic Writing as an Indicator of the Fundamental Factors Underlying the Personality. (Muhl — published in Journal of Abnormal Psychology).
11. The Ribald Criminal. A psychoanalytic study of the crime of Obscenity. (Karpman — Published in the Psychoanalytic Review for July 1923).
12. Neuropathology of Porendephaly. (Lewis — Published in July 1923 number of Archiv. of Neurol. and Psychiat.).

The following studies are nearly ready for publication and it is expected that they will appear within the next six months. These studies are not included in any of the above mentioned items.

1. Case study of fantasies of intrauterine life and the regressive mechanism involved.
2. Case study of sublimation of homosexual trends in a woman.
3. Dreams that indicate convalescence from mental illness.
4. A note on the constructive management of the jealousy motive in children.
5. The higher thought processes in the insane.
6. Book. On the adolescent girl — A popular presentation of the subject — discussing the adolescent girl among primitive peoples and in history, puberty, and the psychological and social problems confronted. — Behavior problems, abnormal mental states — training — sex instruction, etc.
7. The psychology of the tuberculous. (Completed).

8. The permeability of brain structures to fluid.
9. Histology of nerve sheath degenerations in the adrenal glands. (Completed).
10. Psychoanalytic studies and interpretations of epileptic aura.

From January 15th to May 10th there was conducted a *course in neuro-psychiatry.* This was attended regularly by 48 medical officers assigned by the Veterans Bureau, by one each from the Army and Navy Medical Corps and by the hospital internes. Numerous visitors attended special lectures and sections of the course.

The subjects in the course are shown in the accompanying tabulation. In addition each student devoted about four hours daily to clinical work in psychiatry, neurology, endocrinology, etc. Neurologists, psychiatrists, and investigators in allied fields from all portions of the eastern section of the country took part in the lecture work, and much of the success of the course is due to their cordial cooperation and enthusiastic presentation of special topics. The lecturers in the topics are also shown in the tabulation.

I. *General subjects:*

1. Introduction: General problems; administrative matters; hospital construction; medico-legal matters.
2. Heredity.
3. Chemistry in relation to neuro-psychiatry conditions; metabolism methods and disorders; neuro-chemistry.
4. Relations of non-neurological diseases.
5. General therapeutic measures; hydrotherapy; electrotherapy; physiotherapy; re-education methods.

II. *Psychiatry and Allied Subjects:*

6. Psychology, normal and abnormal; personality, behaviorism.
7. Mental examination methods.
8. Tests for general intelligence and special aptitudes.
9. Psychotherapy, including psychoanalysis.
10. Feeblemindedness and other developmental diseases.
11. The acquired mental disorders, including the psychoses and the psychoneuroses.

III. *Neurology and Allied Subjects:*

12. Neuro-anatomy.
13. Neuro-physiology.
14. Neuro-pathology.
15. Neurological examination methods, ophthalmological methods; Baramy tests; Roentgenology.
16. Neuro-Surgery.
17. Serology.
18. Syphilitic psychoses and neuroses.
19. Endocrinology.
20. Systematic neurology.

General hospital visits were conducted under supervision. The clinical ward work was carried out under the supervision of the doctors in charge of the several services in addition to the lecturers, at the Gallinger and Emergency Hospitals.

Aside from the *publications* mentioned above, the following ones have issued from the hospital since July 1st, 1922:

White, Wm. A., Superintendent:

The Message of Psychiatry to General Medicine. Southern Medical Journal November 1922.

Insanity and the Criminal Law. (Book) The Macmillan Company. 1923.

(With Dr. S. E. Jelliffe) Diseases of the Nervous System. (Book) 4th ed. Lea & Febiger. 1923.

Outlines of Psychiatry. (Ninth Edition). (Book) Nervous and Mental Disease Publishing Co. 1923.

Existing Tendencies, Recent Developments and Correlations in the Field of Psychopathology. (Presidential address. The American Psychopathological Association). Published in The Journal of Nervous and Mental Disease. 1922.

Living at Our Best. (Positive Health Series Pamphlet 4). Women's Foundation for Health.

Franz, Shepherd Ivory. Director of Laboratories: Psychology and Psychiatry. Psychological Review. Vol. 29. Mental Traumata and the Preparation of the Medical Profession to care for them. International Clinics. Vol. 4.

Main, Daniel C., Clinical Director: Catatonic Dementia Precox; Physiotherapeutics, and Results Obtained in a Series of Twenty Cases. American Journal of Psychiatry. January 1923.

O'Malley, Dr. Mary, Clinical Director: Transference and Some of its Problems in Psychoses. The Psychoanalytic Review. January 1923.

Lind, Dr. John E., Senior Assistant Physician: Encephalitis Lethargica. Reference Handbook Medical Sciences. 4th ed.

Wooley, Dr. Herbert, Senior Assistant Physician: Treatment by Employment. Modern Hospital. February 1923.

STATE LEGISLATION PROVIDING FOR THE MENTAL EXAMINATION OF PERSONS ACCUSED OF CRIME.[1]

S. Sheldon Glueck, A.M., LL.M.

MEMBER OF THE BAR OF THE STATE OF NEW YORK; GRADUATE STUDENT IN CRIMINOLOGY, DEPARTMENT OF SOCIAL ETHICS, HARVARD UNIVERSITY.

The perennial conflict between members of the legal and medical professions on the question of the relation of mental abnormality to criminal responsibility, is a matter of common knowledge. Every sensational trial brings it again to the forefront, and in almost every book of an exclusively legal or medical character, we find spirited attacks against the views held by the opposing camp. But in spite of this continuous disagreement on questions of theory, we also find increasing evidence that the differences between the two professions are more and more giving way to a spirit of whole-hearted cooperation.

This conscious attempt at cooperation is especially manifest in recent Massachusetts legislation providing for the routine mental examination of certain classes of persons accused of crime. Before considering the Massachusetts act, however, we will briefly review the legislative provisions in other states, so that we may have some basis of comparison.

The medico-legal problem of insanity and criminal responsibility may be divided into two great classes of questions: First, the subject of legal "tests" of criminal responsibility, and how far these are in harmony with modern psychiatric science, — a question involving insanity at the time of the alleged criminal act; and, secondly, insanity *after* the offense was committed, that is, either before or during trial. The former question has so often been discussed at meetings such as this, that most of you are no doubt familiar with its important features. But the second problem is one not so generally discussed. It is, moreover, daily becoming the more important one of the two, for judges and district attorneys are coming to agree with psychiatrists that it is more efficient, economical and humane to sort out, *before trial,* those accused persons who are mentally abnormal, than to subject such persons to the ordeal of a trial only to be compelled to transfer them early during their prison service to some hospital for the mentally ill. The second question has also been the subject of much more specific legislative provision in America than has the first. For these reasons we will confine ourselves at this time to a survey of the legislation on the second problem, namely, insanity of a defendant after the time when he was supposed to have committed the alleged offense, more particularly, insanity *before trial.*

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[1] Address delivered before the Massachusetts Hospital Trustees Association, semi-annual meeting, Oct. 25, 1923, Taunton State Hospital.

In early English law, it was provided, in the language of Blackstone, that,

> " . . . if a man in his sound memory commits a capital offense and before arraignment for it he becomes mad, he ought not to be arraigned for it, because he is not able to plead to it with that advice and caution that he ought. And if, after he had pleaded, the prisoner becomes mad, he shall not be tried — for how can he make his defense?"[1]

The law in American states today is not essentially different from the old English law, except in one or two respects. In most states, for example, some definite procedural machinery is set in motion in case of the alleged insanity of a defendant before or during trial; and in some jurisdictions the showing of probable insanity which is required to be made on the defendant's behalf before the trial court will set such investigatory machinery in motion, is also definitely prescribed by statute. At common law the question of insanity at trial was usually settled by a jury, but occasionally personal inspection, by the judge, of a defendant whose counsel claimed such defendant to be insane at or before the trial, took the place of a special jury trial of that question. Again, at common law an individual found to be totally insane by one of these methods was kept in prison until he could be tried; today, he is usually, though not in all jurisdictions, confined in a hospital for mental diseases.

Taking up now the procedure upon the allegation of the accused's insanity at the time when he is under indictment and awaiting trial, we find that many states have no special legislation governing this point; and in those states the common law rules are in force. In the states which do specifically provide for such cases, the laws can profitably be considered from two points of view: First, how and by whom the existence of the alleged insanity of a prisoner before trial is brought to the attention of the court; secondly, the procedure which is then followed.

In some six or eight states, of which New York[2] is an example, the law provides for appropriate investigatory procedure if "it shall appear" that accused awaiting trial is insane; but such legislation does not usually specify to whom and in what manner the accused shall appear to be insane, before an examination of his mental condition can be inaugurated. Rhode Island is more specific, providing for appropriate investigation on petition of the agent of the state charities and corrections or an officer having custody of the defendant.[3] In Connecticut the fact of defendant's insanity must be brought to the attention of the court by the sheriff of the county jail.[4] In Pennsylvania the jail physician or some executive officer of the institution where accused is confined awaiting trial may initiate proceedings for the mental examination of the defendant by filing with the court an application for commitment, prescribed by the Department of Public Welfare.[5]

In three states, of which Vermont[6] is an example, proceedings for the observation of the defendant in the state hospital are initiated only if a technical plea of insanity is made or if the court believes it will be made. Indiana broadly provides for the proper procedure if the judge, either of his own knowledge or upon the suggestion of *any person,* has "reasonable grounds for believing" accused insane.[7] In Wisconsin, if the court is informed "in any manner" that accused awaiting trial "probably is" insane or feebleminded, the court must grant an inquisition to examine him.[8]

All these provisions are open to the objection that *initiation of proceedings* is left to persons untrained in psychiatry;[9] in other words, it is largely a matter of chance whether or not the defendant is given a mental examination before (or even during) trial, unless his symptoms are strikingly suggestive of the "raving maniac," or the "driveling idiot."

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[1] Commentaries, IV, p. 24.
[2] Gilbert's Criminal Code (1921), sec. 836.
[3] Public Laws (1909–1910), Chap. 642, sec. 35.
[4] General Stats. (Rev. of 1918), sec. 6584.
[5] Act of the General Assembly No. 414 (1923), Art. III, sec. 308.
[6] General Laws (1917), sec. 2602.
[7] Burn's Ann. Stats. (1914), Vol. 1, sec. 2071–d.
[8] Wis. Stats. (1921), Vol. II, sec. 4700.
[9] It is doubtful whether even the average jail physician, without experience in psychiatry, is qualified to pass on this question.

The Commonwealth of Massachusetts has a unique measure that constitutes the most radical step yet taken to provide for the mental examination of accused persons awaiting trial. It is the first piece of legislation making the mental examination of those indicted for certain classes of crimes a *routine matter,* not dependent upon the alertness, desires or caprice of those in charge of the accused. Theoretically, at least, *all persons* falling within one of the three categories mentioned by the law, *must* be mentally examined before trial, regardless of whether or not they exhibit symptoms of mental abnormality recognizable by the non-expert in mental diseases, whether such non-expert be a police officer, jail warden, counsel for the defense, the prosecuting attorney or the judge. We will return to a consideration of this act a little later.

Surveying the state legislation from the second point of view, namely, by considering the types of machinery set in motion when once the mental status of the accused before the trial is brought to the attention of the court, we again find several distinct classes. Some states have no definite procedure, and there it is left to the discretion of the court as to how it will answer the question of supposed mental abnormality. In a small group of states, such as New Jersey[1] and Rhode Island,[2] it is provided that the judge, taking such evidence as he may desire, shall conduct an inquiry into the mental condition of the accused, who, if found insane, is committed for an indefinite period to a state hospital.

In a number of states, of which New York[3] and Alabama[4] are typical, it is within the discretion of the judge as to whether or not he shall call a jury to try the issue.

A group of states, of which Ohio[5] is an example, provides specifically for a jury trial to pass upon the alleged insanity of an accused person who is in confinement under indictment, the hearing being in the nature of an elaborate, technical trial, exactly as if the main issue, the guilt or innocence of the defendant, were being tried.

In Kansas[6] the inquiry may be by the court, a commission, or special jury; and in Maine,[7] New Hampshire,[8] and Vermont,[9] if the court believes a plea of insanity will be filed, it may send accused to the state hospital for observation. Pennsylvania provides for an inquiry either by two "qualified physicians," or a commission composed of two physicians and a lawyer.

Obviously, a jury is unsuited to the purpose of settling a medical question; further, such procedure duplicates a jury trial, since, if the defendant is found by the first jury to be sane at the time of such trial, he is tried again, either by the same jury or another, on the main issue of guilt or innocence. Where experts are appointed by the court, it is doubtful whether they have the proper psychiatric training and experience, unless the statute specifically defines their qualifications. Besides, all the methods of appointing experts and conducting technical hearings before the court smack too much of a trial on the main issue of guilt or innocence; and the principal object, that *of sorting out those defendants on whom the expense and time of a trial would be wasted, and whom it is inhumane to try,* would thus seem largely to be defeated.

Returning now to the Massachusetts law, we see that it is easily the most far-sighted piece of legislation on this subject yet passed. Much credit is due to Dr. L. Vernon Briggs, whose tireless efforts were largely instrumental in having the law enacted, and who, in addition, is keeping an eye on its practical operation; for many reformers are responsible for much legislation on the statute books, who, once the laws have been enacted, sit back complaisantly and expect the laws to enforce themselves. The original Massachusetts law went into effect in September, 1921.[1] Since then the law has been slightly amended. The original act provided that,

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[1] Laws of N. J. (1918), Chap. 147, sec. 437. The New Jersey law applies also to those appearing to be "*epileptic,* imbecile or feeble-minded."

[2] Public Laws (1909–1910), Chap. 642, sec. 36.

[3] Gilbert's Crim. Code (1921), sec. 836.

[4] Crim. Code (1907), sec. 7180.

[5] Ohio Gen. Code (Throckmorton), (1921), secs. 13614 and 13577.

[6] Gen. Stats. (1915), sec. 10043.

[7] Rev. Stats. (1916), Chap. 139, sec. 1.

[8] Laws of 1911, Chap. 13, sec. 1.

[9] Gen. Laws (1917), sec. 2602.

> "Whenever a person is indicted by a grand jury for a capital offense or whenever a person, who is known to have been indicted for any other offense more than once or to have been previously convicted of a felony, is indicted by a grand jury or bound over for trial in the superior court, the clerk of the district court or the trial justice, as the case may be, shall give notice to the department of mental diseases, and the department shall cause such person to be examined with a view to determine his mental condition and the existence of any mental disease or defect which would affect his criminal responsibility. The department shall file a report of its investigation with the clerk of the court in which the trial is to be held, and the report shall be accessible to the court, the district attorney, and to the attorney for the accused, and shall be admissible as evidence of the mental condition of the accused."

Notice, in the first place, that this act eliminates the bad features present in all other state legislation on the subject; that is, as was pointed out, it makes a *routine procedure* of the examination of the classes of offenders mentioned. Further, the examinations are made by a *neutral, unbiased agency* and by experts trained and experienced in mental medicine; and the examinations are made before trial and before it is decided whether or not to resort to the defense of insanity. Moreover, the examination is not a technicality-ridden procedure, before a judge and in the presence of the district attorney, or before a judge and jury, which, in other jurisdictions, really amounts to a special trial preceding the trial on the issue of guilt.

That the provision for such routine mental examination ought to result in the accumulation of valuable scientific data on the subject of the mental make-up of the recidivist, is apparent. But more immediate good results are to be expected from such a law. In the first place, the mentally unsound can be spared the ordeal of a trial; secondly, the State and its officers will be spared a vast expenditure of time, effort and money spent in the prosecution of those who ought not to be tried, in those cases where the findings of the unbiased experts, appointed by a neutral agency before trial, are accepted by the defendant's counsel, the district attorney and the court as a working basis for the disposition of the case without trial. Further, the reports of the experts, impressing upon district attorneys and judges that in cases such as mental defectiveness, constitutional psychopathic inferiority, etc., defendants are at the most only partially responsible for their conduct, regardless of their legal responsibility, will serve to educate these public officials; and we may hope, as a result, for a more humane and sensible disposition of the vexing "border-line" cases of the "semi-responsible"[2] than is now characteristic of most jurisdictions. Indeed, the opportunity of the examiners to educate judges and district attorneys to the psychiatric point of view, by means of complete, clearly- and forcibly-presented reports cannot be over-emphasized. Unfortunately, an examination of the reports already filed indicates that not all examiners have been making such detailed and well-rounded reports as they might, or as would impress a court; but one can hardly criticize an expert on such score, who has been devoting much of his time, without compensation, in the public-spirited duty of examining persons accused of crime. One of the provisions in the amendment to the law, recently passed,[3] is for the payment of the nominal sum of four dollars per expert per examination; this is hardly better than no payment at all, as when no compensation was forthcoming the experts appointed by the state voluntarily performed what they considered to be their public duty, and now, it is difficult to blame them if some of them are more insulted than enriched by the four dollar fee for an examination that means so much in the way of responsibility and that might require three or four visits and interviews of several hours at a time. It is clear that the efficiency of the law, as far as requiring better reports is concerned, would be enhanced if the experts were compensated to a degree commensurate with their skill and the importance of their work. This then is the Massachusetts law as it appears in the books; let us briefly glance at the "*law in action.*"[1]

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[1] General Laws, Chap. 123, Sec. 100A.

[2] See "The Semi-Insane and the Semi-Responsible," Joseph Grasset, transl. by S. E. Jelliffe, Funk and Wagnalls Co., N. Y. and Lond., 1907.

[3] Acts and Resolves (1923), Chap. 331, 25.

In a paper read by him at the Detroit meeting of the American Psychiatric Association, Dr. Douglas A. Thom, (who, by the way, has devoted more thought and time to the efficient enforcement of the law than perhaps any other individual with the possible exception of Doctor Briggs, the father of the law), discussed the operation of the Massachusetts law in eighty-eight cases which had been examined when he prepared his paper. Since then, through the cooperation of the officials of the Department of Mental Diseases and of the Massachusetts courts, I have made a study of the cases examined to date, with the following results:

The number of cases reported for examination to date and not still pending is 142. Of these twenty-nine were *not examined* for the following reasons: Thirteen were out on bail and could not be found when the examiners called. One case had been nol prossed before examination, in one the indictment had been quashed, and in three the court had imposed sentence before examination by the experts. Eleven were reported for mental examination, but, as they did not come within the provisions of the law, they could not be examined. Of these eleven, four did not fall under the law because they were indicted for *manslaughter* and were therefore not in the class of "capital offenders," and seven, because their previous records, so far as could be ascertained, involved only misdemeanors. Of the classes of cases to which these eleven belong more will be said later. On examining the history of one of those not mentally examined because they were out on bail and could not be found, (which I selected at random), the following criminal record was disclosed:

Offense	Date	Sentence
1. Attempted larceny and assault and battery .	1905	Case filed
2. Breaking and entering .	1911	Probation granted
3. Larceny	July, 1911	5 years — Released after 13 months.
4. Burglary	Dec., 1913	6 months to 15 years — Released after 17 months.
5. Robbery	June, 1916	4 years — Released after 16 months.
6. Grand larceny . . .	Apr., 1920	6 months — Given three months more for attempt to escape.
7. Grand larceny . . .	Mar., 1922	Not mentally examined because out on bail.

This record is probably incomplete, as it represents only those offenses to be found in the Massachusetts files; it presents clearly the utter ineffectiveness of the usual penal treatment in such cases. Yet, as stated, this man could not be examined under the law because he had been released on bail and could not be found. It is to be hoped that when the Massachusetts law for the routine examination of such offenders has begun to function more effectively, judges will see to it that such offenders are examined.

Of the 113 *examined* by the experts, 71 had been indicted for a capital offense, and five for second degree murder or manslaughter, those five having been examined before it became established that the law did not strictly apply to them. Eight of those examined were indicted for sex offenses, twenty-seven for offenses against property (such as robbery, larceny, burglary, etc.,) and two for dangerous assault with intent to rob or kill.

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[1] One of the most important of the notable contributions to Jurisprudence and to the work of the socialization of the law made by Dean Pound of Harvard Law School is his emphasis on the importance of studying the practical working of laws. This view has resulted in such fruitful preliminary work in law reform as the Cleveland Survey of Criminal Justice. See Dean Pound's oft-quoted "Law in Books and Law in Action," 44 Amer. Law Rev., 13.

Surveying now the reports on mental examination of these 113 accused persons, we find that there was reported insanity, psychopathic personality, mental deficiency or defective delinquency in 38 of these, leaving 75 in whom no noticeable evidences of mental deviation from the "normal" were found. Eight of the 38 were considered insane on the first examination, and upon such finding were immediately committed by the courts either to the Bridgewater State Hospital for the Criminal Insane or some other State hospital. Two cases, reported as not insane, tried, convicted, and sentenced to life imprisonment, developed symptoms of mental disease soon thereafter in prison, and were transferred to the hospital for the criminal insane. These cases strikingly illustrate the opinion of Professor Bishop in his "Criminal Law," to the effect that the memorials of our criminal law are written over with many cases of insane and irresponsible persons who have been unjustly executed; for in these cases, if life imprisonment had not been imposed instead of the death penalty, they would have been unjustly executed. Even mental examination before trial and by unbiased, experienced experts failed to disclose in these cases the presence of mental disease; how much more truth must there be then in Professor Bishop's remark when considered in the light of the fact that in many cases in other jurisdictions, which do not provide for *routine* examination of serious offenders, the question of mental abnormality may not even be brought up! As it is these individuals were unnecessarily subjected to the ordeal of a trial, and the state unnecessarily underwent the expense of time and money. That expert examination failed to disclose mental disease is indicative of the need of a longer period of observation and more intensive examination of some cases. It should be said here that an inspection of the reports of examinations made discloses the fact that in the large majority of cases the accused were subjected to a remarkably thorough examination, two or three visits not being at all uncommon in cases where there was any doubt. When it is remembered that most of the cases were examined free of charge and that many examinations were made by busy psychiatrists, such a statement is particularly significant. Inspection of the records also discloses the fact that the Department of Mental Diseases has, wherever any doubt as to the significance of a report has arisen, either written to the experts for more explicit information or asked them to call at the offices for an interview about the case. Of course, it would require a much larger staff than now at the disposal of the Department to minutely verify every report filed; nor is such procedure necessary in the large majority of cases.

One of the 113 cases examined was reported not insane, but developed symptoms at the *trial,* necessitating a re-examination and his commitment to a State hospital. The diagnosis in the eleven cases thus pronounced insane has in each instance been verified by subsequent observation in the hospitals to which they were committed.

In three cases, after a thorough examination, the experts appointed by the Department remained in doubt, and recommended a period of observation in a hospital; these reports were not as yet available.

Seventeen cases were diagnosed by the experts as *mentally deficient* or *defective delinquent.* The latter designation is, however, more a legal than a medical one, the defective delinquent law[1] providing for the commitment for an indeterminate period to the department for defective delinquents of offenders with mental defect who provide too troublesome a problem to handle in the ordinary penal institution, school for feebleminded or hospital for the insane. An offender is thus not really a defective delinquent under the law until committed as such to the special department. Three of those believed mentally defective were wisely committed by the courts as defective delinquents. In several other cases, however, where the experts declared such persons to be, in their opinion, defective delinquents, the court did not commit them for indeterminate periods under the defective delinquent law, but treated them in the ordinary way; thus one of these received but six months in the house of correction. One of the mentally deficient cases, in which the indictment was for a capital offense, received a life sentence, while another, who committed homicide, received a sentence of but one year in the house of correction under a voluntary plea of guilty to manslaughter. Obviously it would have been better for all concerned if the latter could have been incarcerated, under the law, for a wholly indeterminate period. The case of one mentally defective offender, indicted for murder, was nol prossed because of insufficient evidence to convict. Another received fifteen to twenty-one years in prison for robbery and assault, although the experts had recommended a wholly indeterminate incarceration as a defective delinquent. This prisoner, at the age of 21, had a long and checkered career behind him, beginning at six years of age, when he stole $10, through the age of nine, when he used revolvers in committing hold-ups, and down to the time of his examination.

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[1] Acts and Resolves (1921), Chap. 270, sec. 1.

I cite the case of one of these mental defectives in some detail as it is eloquent of the need of closer cooperation of courts with psychiatrists, social workers, probation officers and others concerned, under the law we are considering and similar laws, with the socio-legal treatment of such cases.

X, a woman accused of adultery, pleaded guilty, and was sentenced by a district court to six months in the house of correction. Her counsel appealed to the superior court. In the meantime, she was examined, under the Massachusetts law, as to her mental condition, and part of the report of the experts is as follows:

" She speaks reluctantly of her past life, giving a history of only four arrests, while we have a record of seven from the court. She seemed absolutely without shame in talking of her past; seemed to lack any true sense of moral decency. . . . She could 'see no harm in a woman leading an immoral life unless she bore children'. Thought 'there was no harm in a woman's supporting herself by that means'. According to Binet tests, she graded up to 7.8 years of age. It would seem from this history and from the Binet examination that this woman is a menace to any community in which she might be living. In our opinion, she is a suitable case to be committed to a school for feeble-minded.

However, in transmitting this report to the court, the Department of Mental Diseases correctly pointed out that she could not be committed to a school for feebleminded under the Massachusetts laws, and recommended her committed to a hospital for the insane for further observation. She was so committed by order of the superior court, and on her discharge therefrom at the order of the court, the following is a part of the report made by the hospital:

" . . . Admits having been promiscuous sexually since the age of 14 and having used alcohol since the age of 19. She further admits five court sentences, two for adultery, and three for drunkenness. . . . Our formal diagnosis . . . is mental deficiency — low grade moron. From the medical standpoint we would recommend an indefinite sentence to Sherborn Reformatory, as we feel that this individual is quite unable to keep out of trouble if allowed to go at large."

This woman's case was placed on file and she was placed on probation! She worked six months in a factory, was *again arrested* for adultery, and was *again* recommended for *probation!*

It is easy to criticize the court's action in such cases, but the fault often does not lie with the court. There exists at present in Massachusetts no place to which *female* defective delinquents of the type of this case can be committed.[1] It is true that this woman could have been committed to Sherborn as recommended; but the sentence there would have to be for some definite, and hopelessly inadequate, period, and no special facilities for the treatment of such cases exist in prisons for women. As a matter of fact, with so low a mental basis to build upon, but little good can be done by the ordinary penal and reformatory methods in such cases. Obviously, however, probation is even a less satisfactory device for dealing with them.

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[1] Although the original defective delinquent law provided for the treatment of female defective delinquents at one of the institutions for female prisoners, it was found that a special plant and equipment would be necessary to cope with this problem; no separate institution for female defective delinquents is in existence in Massachusetts at this time.

Another young offender, declared by the experts to be a defective delinquent, was found not guilty of assault with intent to rape; and the remaining defectives were given brief, definite sentences. The problems they present are far from being solved from a social point of view.

The diagnosis in seven cases was *"psychopathic personality"* or *"constitutional psychopathic inferiority."* It is noteworthy that this condition was found in only seven out of 113 cases examined; this is an interesting contradiction of those who insist that if psychiatrists had more to do with the criminal law they would find almost all criminals irresponsible, and would throw them into "constitutional psychopathic inferiority" where no definite psychosis could be established. In one of these, a capital case, the experts called the attention of the court and district attorney to the defendant's condition of "borderline" mental disease, and these officials agreed that while not absolutely irresponsible for his criminal acts, such an individual should be considered as only partially responsible; and he was given a life sentence. This case illustrates the kind of legitimate influence that can be exerted by unbiased experts to educate judges and prosecutors and to lessen the rigor of the law in cases such as this, wherein an inflamed public opinion demanded the death penalty,— a fact which members of the jury conveyed to the district attorney in the case, after their discharge, when he had agreed to accept a plea of second degree murder on the recommendation of the experts. Here a wise social disposition was made of a type of case that has been the source of much medico-legal discussion, the problem of the semi-responsible. The prisoner has been placed for the rest of his life where he can do no further harm, and at the same time his mental condition and limited responsibility were considered and balanced against the legal demand of the extreme penalty.

Some of the other cases of psychopathic personality were not disposed of quite as wisely from a social point of view. Thus one, with a long record of burglary and larceny, was given six months in the house of correction; undoubtedly, he will resume his career of depredation when he is discharged, conforming to the psychiatric prognosis in the case. Another received *one year* in the house of correction on the following report of the experts:

> "Age 29; divorced; ... Father deserted when (patient) three years of age. Became a state ward; attended school to the 8th grade.
>
> At 11 years sent to Lyman School as a stubborn child remaining for three years; then transferred to Concord Reformatory for larceny, where he stayed 14 months; later committed to State Prison for burglary and larceny, where he served 4 years; from 1908 to 1911 was in the U. S. Army, was arrested as a deserter and served a sentence in Leavenworth. Has also served a year and one-half at Blackwell's Island, a sentence at Sing Sing, and three months at Holmesburg, Pennsylvania.
>
> Has always been of nervous make-up, troubled with insomnia, an occasional user of morphine. Eleven days prior to arrest was paroled from State prison.
>
> Mental examination shows an average intelligence, no hallucinations or delusions or gross evidences of insanity. Patient shows *marked emotional instability,* threatening suicide in case he is convicted again.
>
> From his history and from our examination, we are of the opinion that his emotional instability is pathological. While we believe this man to be neither insane nor feebleminded *in a legal sense,* we believe his career to be adequately explained by a disordered personality, ordinarily classified as constitutional psychopathic state."

This is the type of case that our socio-legal engineering has as yet utterly failed to cope with. Every judge who had anything to do with the sentencing of this person and who read the results of previous brief sentences, must have felt how hopelessly inadequate are the legal means at our command today to make a wise social disposition of such cases. Under the law, in the face of this report, and realizing, no doubt, what a ridiculous palliative he was prescribing, the judge was forced to give this man a brief sentence. Judges alone can not be blamed if such laws as the Massachusetts act for the routine mental examination of certain classes of offenders cannot fully achieve the ends they were designed for; the fault lies in the legislative prescription, in advance, of definite, brief sentences, under the easily-pierced disguise of " indeterminate sentences ", which, in practice, really amount to small, fixed sentences.

Another psychopathic delinquent, with a record not to be scoffed at in the best criminal circles, was given probation, and his case was placed on file. He reported for a time but soon escaped to another jurisdiction, completed a six months' sentence in Providence, and is now being held for trial in the Federal courts for breaking into two post offices. I quote from the report of the experts in still another of these cases of psychopathic personality. After detailing a long history of arrests from early boyhood days to the time of arrest for the last offense, the experts say: " . . . Although we believe that this man is neither insane nor feeble-minded, we do believe that it is very doubtful if he will profit by the routine correctional measures, and that he will probably become a chronic offender against the law." This offender received a sentence of three to four years in prison.

In all such cases and in most of the cases of defective offenders the best of laws can do but little, until society, through its machinery for legal regulation of the social order, decides to take the radical step of incarcerating such unstable offenders for a wholly indeterminate period, its actual length to depend not upon the wishes of the trial judge, who has had little opportunity, if any, to study the offender and his development under penal and correctional treatment, but on the judgment of highly-trained prison officials who can study the behavior of the offender over a long period of time, and who are logically the ones to say when such offenders can reasonably be expected to " make good " in society. Our boards of parole are attempting to do this now, but, unfortunately, some members of such boards are wholly untrained and unskilled in the problems with which they have to cope; adequate compensation, to attract highly skilled and thoroughly trained officers for this important branch of social engineering, is necessary. In the meantime, the education of judges and legislators in the social and psychological aspects of their professions is necessary.

To summarize the foregoing, out of 142 cases reported for examination, only 113 were examined, of which 71 had been indicted for a capital offense, the remainder coming under the other two categories of the law. Of the 113 examined, mental abnormality was found in 38, of which 11 were insane, three were recommended for further observation, 17 were found mentally deficient, of which three were committed as defective delinquents, and seven were diagnosed as psychopathic personality or constitutional psychopathic inferiority. All the insane were committed to insane hospitals, several of the mentally defective and psychopathic were wisely handled in conformity with the recommendations of the experts, and some not so satisfactorily. It is gratifying to note, however, the comparatively large number of instances in which public-spirited judges and prosecutors cooperated with psychiatric experts in a wise social disposition of problems of mutual interest to the law and medicine. With the progress of the work, wiser and more intimate cooperation may confidently be looked forward to.

Let us now briefly criticize the law by way of concluding our remarks: First, it applies, under the first category, only to *capital* offenders, thus making no provision for second degree murderers or those indicted for manslaughter. In the second category, that is, persons *known* to have been *indicted* for any other offense *more than once,* those previously indicted but once can not be examined. In the third category, those previously convicted of a *felony,* criminals with long records of *misdemeanors* are not included. It is well known that the most promising material for the study of recidivism is among those who for various causes have had a long career as petty offenders. The line between misdemeanor and felony is, after all, artificial, when the distinction is considered from the psychiatric point of view; and the relationship of the mental condition to the illegal act is equally important in misdemeanor and felony.[1]

Secondly, the reporting of the cases depends upon the clerks of the courts, who are not compelled to make such reports, if they do not, in the language of the statute, *know* of the previous records of offenders. Obviously, out of the vast number of cases which have come up since the law went into effect, more should have been reported than 142. But even if the clerks all willingly cooperated, the only reliable source of information as to prior criminal offenses is in the office of the Deputy Commissioner of Probation, the records of which, though excellent, cover but twenty-one courts of the state and about sixty per cent of the criminal business. Manifestly, before the law can operate successfully, thorough records of criminal offenses will have to be established covering the whole state; and even then, there is no centralized Federal bureau of criminal records covering and coordinating criminal information in the various states, so that offenses in other jurisdictions are often unknown.

Thirdly, it will take some time before trial judges *coordinate* their *disposition* of cases with the experts' reports on such cases; the problem, in other words, is the fundamental one of coordination and effective inter-relation of all the agencies that deal with the criminal from the moment of his arrest to the time of his ultimate return to society. This, in my opinion, is the most fundamental problem to be solved in the field of crime as well as in other fields of social endeavor. It would be interesting to discover, for example, how many social and public agencies have been involved in the treatment of various cases arising in the field of social work, how much duplication and working at cross-purposes there has been, etc. Whether the work of coordination of effort among the various agencies that deal with the criminal should be done by a Ministry of Justice, as some have proposed, is a problem well worth pondering over.

In spite of these patent defects of the Massachusetts law, however, it is reiterated that this provision for the mental examination of persons accused of crime, even as it stands today, is far in advance of any similar legislation in any state of the Union. Its efficient principle is to reduce to a minimum the trial of persons who, because of mental abnormality, can more wisely be disposed of without a formal trial. It is the first step in the direction of placing the question of the socio-legal treatment of the criminal insane where it belongs. It eliminates the objectionable feature common to all other state legislation on the subject, namely, leaving the mental examination of offenders to chance or caprice instead of, as in Massachusetts, making it a *routine, scientific* procedure. Finally, it makes for a much better understanding between the legal and medical professions on the vexing question of the criminal responsibility of the insane than has characterized the past relation between the two professions.

It will take some time for such a piece of social machinery to become well oiled and to be properly coordinated with the other legal machinery. And there is nothing in the law to compel either the prosecution or defense or the court to follow, or even consider, the recommendations of the experts appointed by the Department of Mental Diseases; but this feature can constantly be improved through the influence of intelligent, well-informed, well-guided public opinion. It is here that the efforts of representative, thoughtful citizens may materially add to the efficiency of this and other social legislation. Such men and women as you, whose active participation as trustees in such state ventures as hospitals for the mentally abnormal has demonstrated your public-spirited-ness, can help to furnish and formulate what Dean Pound and other legal scholars[1] have fittingly called the "social-psychological sanction" of law, without which many laws on the statute books not only remain dead letters, but inspire dissatisfied citizens to positive deeds of lawlessness.

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[1] Of the 9,219 occupants of our county jails (Massachusetts) in 1922, 59 per cent had served on an average of six previous sentences. (Statement of Massachusetts Civic League, in the Monthly Bulletin, Nov., 1923, of the Massachusetts Society for Mental Hygiene). These petty offenders must commit one of the felonies provided for by the Massachusetts law for mental examinations, before they can be examined. The Civic League is now circulating an initiative petition for the mental as well as physical examination of the inmates of the county jails, — a work that must commend itself to all forward-looking citizens.

COLONIE OF GHEEL.

D. A. Thom, M.D.

DIRECTOR, DIVISION OF MENTAL HYGIENE, DEPARTMENT OF MENTAL DISEASES, STATE HOUSE, BOSTON.

Gheel is one of the most important, and certainly the most interesting community of the Antwerp district. Situated on the line of the Antwerp-Gladbach railway, about twelve kilometers from Herenthals, — bounded on the north by the lesser and on the south by the greater Nethe, it forms a delightful and unusual oasis in the midst of woods and heath of the sandy district of northern Belgium, an appearance of wild beauty.

The community of Gheel has an acreage of 21,706, and a population of more than 15,000 people. It is composed of nine districts, and has 2,995 homes housing 1,334 of the sick. The center of the community has the appearance of a happy little town; one admires the magnificent "Grand Place", the beautiful church of St. Arnaud, the superb church of St. Dymphne with its works of art, and the historic associations of greatest value; — the Civil Hospital, etc. In the environs one sees huge verdant fields with countless farms and the red brick houses.

The air is pure and exhilarating, like sea air, and the people are healthy and vigorous.

In what age and manner was the custom of housing and caring for the sick introduced by the people of Gheel?

In answering this question one ought to know the legend. Towards the end of the 6th Century Dymphne, the daughter of an Irish king, sought refuge in Gheel with Gereberne, a priest. She was distraught with fear because of the intentions of her father, who wished to contract with her an unholy union. The king discovered the hiding place of the fugitives and the soldiers assassinated the priest, and the father himself beheaded his daughter. Because of the astonishing cures at the tomb of the virgin martyr, they consecrated her name, — and it became the custom for those suffering mentally, to come there to pray.

Gheel became also a place of pilgrimage for the mentally unhappy, its importance and fame lasting through centuries. Arriving in Gheel, foreign pilgrims were received and given lodging in a portion of the church dedicated to the memory of St. Dymphne, called the "Home of the Sick", — an interesting construction attached to the court of the church where one can still receive the administering of true comfort.

It happened frequently that because of the extraordinarily large number of pilgrims, the "Maison des Malades" became insufficient; then they sought room and board for the sick pilgrims in homes near the church. It was thus that the population of Gheel accustomed itself at an early date to direct contact with the insane, and that in the course of centuries this practice of family assistance was organized, always extending farther and farther. We know that in the 17th Century the people of the hamlets in Gheel shared their homes with the pitiful invalids. The very wise regulations made by the Bench of Gheel prevented the mistakes which would have otherwise been made. A chapter of ten canons was attached to the church of St. Dymphne, which directed the religious work at the church, and superintended the care given to the insane living in homes.

This institution of a semi-religious, semi-communical character was revised and re-organized by the Belgian State in 1852, and the colony of Gheel has since that time acquired a really world wide reputation.

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[1] See, for example, Jellinck: "Allgemeine Staatslehre, 2d ed., 89, 324.

II. PURPOSE & ACTUAL ORGANIZATION OF THE COLONY.

The colony of Gheel is an institution of beneficence, depending directly on the Minister of Justice; it is placed under the immediate authority of a Medical Director. Its purpose is especially the family care of the mentally unsound. All forms of insanity can be advantageously treated by family supervision. It only excludes those whom it is necessary to keep in constant restraint, (those cases dangerous to themselves or their guards, or those whose affection would be of such a nature as to disturb the peace or be harmful to public decency). Daily experiences prove that many of the insane, who are dangerous in the midst of their own families, are absolutely quiet and rational in the colony, — so great is the influence of the change of society and the kindness which the population of Gheel exerts for their consideration.

Upon arriving in Gheel the patient is taken for observation to a central asylum, commonly called the Infirmary. He remains there long enough to allow the Medical Director to study the character of his mental affection and to convince himself that the patient shows nothing that is incompatible with the special rules of the colony at large.

Nevertheless, at the formal wish of the family, and after preliminary consideration with the management, the patient can be placed immediately upon his arrival in a helpful family.

But the Infirmary is not only a center for observation, there are still other services which it renders. When the patients placed in the homes of caretakers contract diseases whose symptoms require special and continued care, when they suffer from violent paroxysms or when they show a tendency towards escape or insubordination, they are sent back to the Infirmary and placed under close observation.

But whatever may be the reason for sending a patient to the Infirmary, his stay there is essentially temporary, and as soon as it is possible, he is returned to the good care of his host or nurse.

The choice of a family is the most important and delicate question to solve. In general, an attempt is made to retain for the patient his natural habits of life; — the artisans are placed in families pursuing the same line of work; patients coming from cities are placed in the families of citizens living in the center of the town, and peasants are lodged with farmers. The greater number of homes are open to the colony, giving a wide choice, and thus the adapting of a patient to his new environment is under the best conditions. The families of paying patients, guided by the advice of the Medical Chief, may themselves choose a pension to their liking. For dependents the choice is left to the care of doctors in the colony, and members of a permanent committee, of which more will be said later.

After thirteen centuries of contact with the insane, the family care for the sick has become a habit, almost necessary to the life of the population of Gheel. But all who wish may not care for the sick. Before being accepted, the aspirant must prove a good character, and possess certain surroundings of comfort. Naturally kind and considerate towards their pensionnaires, the guardians receive professional instruction, and perfect themselves in their delicate mission of attendants.

The homes caring for the poor are most comfortable, those receiving patients in better circumstances are expensively — almost luxuriously, furnished. The price of board and room naturally varies with the resources of the patient. The minimum is 600 francs a year.

In regard to medical service, the Gheel colony is divided into four sections. Under the control of a Medical Director there is a competent doctor for each division, assisted by two attendants or nurses from that section. Doctors and attendants continually visit the patients living in the various homes in their districts. Any private practice is prohibited to doctors of the colony, and officials of the Department of Justice are obliged to devote themselves entirely to the care of their patients. Each district has a large and complete public bath where patients are regularly brought by their guardians. The custom of restraint is unknown.

Religious service is arranged to satisfy all the demands of families and patients. A Catholic chaplain is attached to the colony; a Protestant pastor and a Jewish rabbi fulfil regularly, according to their creeds, the duties of their orders.

Few institutions have so large a superior governing body as Gheel. Independent of the personnel of the establishment, Medical Directors, doctors of the divisions, nurses and attendants, whose work is constantly observed by the Central Administration, (a minister of justice and his delegates), the inspection of the patients placed in the community of Gheel is placed in the hands of two bodies, especially organized for this duty. The chief one, which is called the Head Commission, counts among its members the governor of the province, the royal attorney, the judge of the peace of the district, the burgomaster and the senior curé of Gheel. Its power of supervision is notably exercised on the personnel of the employees, the medical and economical régimes, food, clothing, sleeping accommodations, regulations for hygiene, ventilation, heating, etc., each of these points being disposed of according to detailed regulations.

With this committee there works a permanent committee, composed of the Burgomaster of Gheel, with a board of three members appointed by the minister of justice and the doctors of the colony. This committee has charge of placing the dependent patients and those whose families have not selected homes. It works in the interest of the insane, supervises the hosts and guardians and proposes the expulsion of those who do not fulfil required conditions or who infringe upon the rules. It grants salaries and special bonuses to guardians who distinguish themselves by their kindness and the care which they give their sick.

Finally, besides this official supervision and detailed organization, besides that which parents and friends of the patients (who visit Gheel at all times and unannounced) exercise, we see all the population of Gheel with whom the insane come in contact exercising an indirect control whose efficacy is not at all doubtful.

III. Advantages of the Family System.

The patients confined in Gheel enjoy, in spite of their adversity, all the advantages of liberty and family life; constant contact with normal men, voluntary work suited to their talents, — walks, amusements, etc. This freedom to go and come is limited for the benefit of the patients. For instance, — visiting taverns is not allowed except at certain hours and only for those patients who are quiet and can behave well. The inn-keepers are strictly forbidden to serve them alcoholic drinks, (this is governed by a law enforced by the police); the hosts and caretakers are held responsible for the safe return to them of the patients, at four o'clock in the winter and at eight o'clock in the summer, unless the doctor has given other orders.

" Gheel ", said M. le Doctor Vlenenck, in his report made in the name of the Central Division to the Chambre of Representatives June 4, 1873, " is the abolishment of solitude; it is liberty instead of imprisonment, it is a patient free to live in a family in constant contact with reason and good sense, under the careful eye of the resident physician and under the superior vigilance of a paternal government. It is truly a work of deliverance and redemption." The care of the sick at Gheel is a real profession for the inhabitants, who feel themselves honor bound to do their best. One ought therefore to help Gheel to show a real interest in all their problems, never to refuse to do anything useful that may be done for the patients who are sent there, to give, whenever possible, towards enlargement in order to give help to a greater number of insane.

From 1875 to 1896, 3,143 patients were admitted to the colony. Of this number 768 or more than 25% returned to their homes, cured or benefited. Moreover, experience has proven that under family care patients resist for a longer time the approach of the final mental decay called madness; and that this takes a much less pronounced form there.

Mortality among these patients remains about 5%, a figure which will seem very low to those who realize that ordinarily mortality is very high among the insane.

To these essential advantages of the family system one must add one which, though accessory, would none the less be taken under serious consideration by provinces and communities in the face of the ever increasing public expenses; — it is the moderate price of the care of the patients.

It was my privilege in the summer of 1920 to visit the colony at Gheel and to be entertained by the director, Dr. Fritz Sano, who, before accepting the directorship at Gheel, had been neuro-pathologist in charge of the psychiatric wards in the Antwerp General Hospital.

The first dwelling we visited was that of the former director's widow. It had all the comforts and charm that one would expect in the home of this kindly, intellectual elderly lady. Her patient was a mental defective, a man forty-five years old who had entered the institution in 1886, at the age of eleven. Then, in a home that was even a bit more elaborate, I saw the rooms of a Scotch school teacher, which were very much like any students' rooms one would see in a college town.

Up the road and across the street, we entered a dwelling more humble but none the less cleanly and attractive. Here we were confronted by a robust, agitated female who only the day before had been sent up from the hospital at Bruges. Her complaints about the hospital she had just left were numerous and varied, and her language was of a descriptive character. She rushed madly out the front door and down the street, nobody paying any attention to her whatsoever, and returned in three or four minutes with a happy, cheerful smile.

Our next move was to a little delicatessen store. The proprietor had his home in the back part of the shop, and was caring for a depressed general paretic upstairs. The patient was sitting in a small bed room, rocking back and forth, while the household carried on quite unconcerned.

Then, in a house which was more elaborate than the others, we found a case of dementia praecox, paranoid type, who had lived in the same place thirty years, having first been cared for by the parents of the present householder. The woman of the household could not remember when the patient was not a member of the family group. In another home was a dementia praecox who had been sent from Holland, and also a rather low grade mental defective. The head of the house, a cheerful, robust Belgian woman, told us that she had received no pay for her Dutch patient for several months, but as she patted him on the cheek and affectionately straightened his necktie, one had no doubts when she stated that she could not part with her patients, pay or no pay.

Then we saw the rooms of an English doctor, and the doors and ceilings showed the effects of some of his manic outbursts. It was stated that he had been in this family for many years, off and on, going back and forth to England just as he wished.

Our last visit was to one of the larger and better homes of the village, and here we saw a rather stately young woman about twenty-five years of age, who was the daughter of one of the Dutch ministers, apparently a case of dementia praecox. On the way to the station, we met the postmaster and his charge, an epileptic boy. While waiting for the train, the director introduced me to a well-built, rather dignified looking gentleman who might have belonged to any one of the professions, and requested that he tell me about certain schemes that he had in mind. The man launched forth, elaborating on his delusions of grandeur. I was told that he had been many years at the colony, and that it was his pastime to watch the trains come and go.

The director said that all inspections of these homes were made without notice, and that if they were not sufficiently frequent, those in charge of the patients felt slighted. He told me that when it was advised to close the hospital at Bruges, one hundred and thirty-six unselected cases were sent from the hospital to the colony, of which one hundred and twelve went directly from the station to their various homes, and on the following day, fifteen more were placed in homes, leaving only nine that were considered in need of observation. The director also informed me that homicides, suicides, and escapes were very infrequent, and that when a patient did escape, he invariably came back of his own accord. During the war, the colony at Gheel opened its doors to the refugees from some of the French asylums, and Dr. Sano said that he witnessed one of the most pathetic sights of his career on the day when these mentally afflicted individuals were returned to the French asylums. The attachment had become so strong between the patients and those with whom they were billeted, that there was hardly a dry eye among all those who witnessed their departure at the station. It is of interest to know that, by special request, the Gheel area was the only section in Belgium where the Germans did not commandeer food during their invasion.

It seems that there is a great humanitarian lesson to be learned from this colony at Gheel, impossible and impractical as it may be for such an institution to exist in this country. There is undoubtedly no small per cent of the patients in our public institutions who might well be enjoying more liberty and comforts, if a well organized boarding-out system could be inaugurated.

THE ORGANIZATION AND DEVELOPMENT OF MENTAL CLINICS FOR COMMUNITY CARE.[1]

By D. A. Thom, M.D.

DIRECTOR DIVISION OF MENTAL HYGIENE, DEPARTMENT OF MENTAL DISEASES, STATE HOUSE, BOSTON.

The New England Society of Psychiatry would probably find but little divergence of opinion regarding, not only the desirability, but the necessity of organizing and developing mental clinics at such places and at such times as to best serve the community and most of you would further agree that such a service should only be limited by the available funds and personnel which the State might be able to secure. It is not necessary to inform you regarding the lack of provisions for the community care of mental cases or to mention the fact that, in the national program of preventive medicine, we, as psychiatrists, are still lagging behind.

I am robbed, by your intelligence on the subject under discussion, of the opportunity of lulling you to sleep by pouring statistical data into your ears about the inadequate number of beds, the inadequate staff, and the inadequate funds which we have at our disposal to care for this apparently ever-increasing army of inadequate people. The time has come to present a program for community care of such cases suffering from mental disorders that do not need custodial supervision. We ought to appreciate from a medical point of view that the diagnosis no longer serves as a criterion of who does and who does not need institutional care. A case of general paresis or dementia praecox may make a very satisfactory adjustment, both social and economic. On the other hand, many of the individuals belonging to the psycho-neurotic group are grave social dangers without strict supervision. " Committable " and " Not committable " are terms of little medical significance just as the phrase " Not insane " and " not feeble-minded " has no social significance. Conduct, so far as it determines the individual's ability to live among his neighbors in peace and meet the obligations he has assumed to his family and the community, may be taken as a fair standard of an individual's right to follow his own pursuits.

Notwithstanding the fact that the mental hygienists, under the leadership of such men as Drs. Salmon and Williams, have done a perfectly splendid piece of educational work, the preventive side of mental medicine is still in the process of being sold to the public. I feel that, unfortunately, we have reckoned too much with paper profits and communities have bought mental hygiene who thought that the initial cost was the last and that it was self-supporting, regarding both funds and effort. Others have purchased it as they might buy at a bargain basement sale — simply because somebody else was buying and still others have purchased who have not paid. This type of buying has naturally not tended to stabilize the mental hygiene movement except in a few isolated localities. But what has been even more harmful to the cause is that much of the mental hygiene propaganda that has been sold has not been delivered, simply because we, as practical psychiatrists, did not have the goods: first, because the public has been given reason to expect more than our present knowledge of mental disease can give; and second, we have fallen short in our efforts to give them the best of what we have.

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[1] Read before the New England Society of Psychiatry, Concord, N. H., October 3, 1923.

I am able only to mention the more obvious reasons why community care of mental cases, quite suitable for this type of treatment, has not advanced and developed along with the programs in institutional care of mental cases during the past fifty years or with the advances made in other aspects of preventive medicine.

(1) Mental clinics, to the man of the street, have been concerned with patients on visits from State hospitals.

(2) All too frequently, they have been held in grand jury rooms, council chambers, school committee rooms, and other public meeting places in no way associated with medicine or medical programs.

(3) The infrequency and often the irregularity of the clinics have lessened their value.

(4) The clinics have invariably been of secondary importance to the demands of the institution. Consequently, if it is necessary to make any curtailments, it is the clinic that is neglected.

(5) Lack of reports or inadequate reports of the social agency sending in the case has been a frequent criticism.

(6) The attitude of the medical profession toward the development of any project which flavors of State medicine.

If clinics for mental disorders are to succeed in the purpose for which they were organized these glaring defects must receive attention. In order to serve their purpose and to do away with the idea, so firmly fixed in the public mind, that mental clinics are for insane people, I would suggest that the clinics be classified as follows: (*a*) clinics for children of the pre-school age; (*b*) clinics for children of the school age; (*c*) clinics for nervous and mental disorders; (*d*) clinics for the ex-Hospital patient.

Every mental clinic, so far as it is practicable, should be associated with the general hospital of the community in which it is operating. The general hospital will soon find the services of a psychiatrist indispensable in dealing with both in-patients and out-patients and the mental clinic will be in a position to broaden its scope if specialists in other lines are available for consultation. It also presents an opportunity of getting over a most important piece of educational work where it is possible to demonstrate the practical application of psychiatric technique to general medical and surgical problems.

It is absolutely essential that any clinic where therapy is one of its main objectives must be operating at least once a week.

In the organization of mental clinics I think it is extremely important to appreciate that the problem of mental disorders can best be approached in its relation to other social problems which are better recognized by the public mind, such as delinquency, dependency, industrial inefficiency, etc., and that a close contact with social agencies will be most advantageous. It must be borne in mind that the primary interest of such an agency is not in the diagnosis but in a plan of treatment to be followed in each individual case and reports from the clinic must outline in detail the course to be pursued. If there are several courses which might be considered, each should be presented with its advantages and disadvantages, and the chances of success or failure attached to each. Such a report will be of real value to the parent, physician, or agency referring the case.

The clinics for the child of pre-school age are of the greatest importance in any plan for the community care of mental disorders. Temper tantrums, pugnacity, shyness, destructiveness, personality changes, delinquency, and the problems concerning feeding, elimination, and sex must be considered in relation to the intellectual equipment of the individual and the mental atmosphere of the home in which he is being reared. There is no doubt but what there is a very definite relation existing between the formation of desirable habits in children and the development of an adequate personality in later life. We are not prepared to say that the organization of such a clinic will affect in any way the mental breakdowns of adult life. As a matter of fact, it is not necessary to justify the clinics on any such speculative grounds. The results obtained and the benefits derived for the child and the parents are such that they stand out as practical demonstrations of mental hygiene that should be encouraged and developed. Such clinics need a rather specialized personnel and a very intensive study. For some time, they will probably be confined to the large cities where a sufficient number of cases can be seen at each clinic so that the cost will not be prohibitive.

The school clinics as operating in Massachusetts, with which most of you are familiar, have been organized and developed in a most efficient way by Dr. Fernald. They are obviously meeting a need in the educational system that has been felt for many years. Such clinics are necessarily diagnostic in function. The work is so extensive and the personnel so limited that there is but little opportunity to deal with the problem cases from a therapeutic standpoint.

It is here that the clinics for the early cases of mental and nervous disorders which have been started in connection with the general hospitals wherever practicable will be in a position to supplement, to a certain degree at least, the work that is being done in the schools. When the Legislature passed the laws by which all school children three or more years retarded should have a mental examination and requiring cities and towns having ten or more mentally defective children to establish special classes, the first and most important step in the treatment of incipient mental diseases was accomplished. The fact that children between the ages of nine and fourteen come under the jurisdiction of the school authorities will eventually not only permit the registration of a large per cent of the feeble-minded of the State, but will open up new avenues for these mentally handicapped individuals by virtue of special training and proper education to develop to the highest degree their limited mental capacity and, in many instances, to become social assets rather than liabilities to the community in which they live. The plan evolved and put in operation in Massachusetts for the examination of school children is obviously an essential part of any scheme of preventive medicine so far as it relates to mental disease. Since it has been demonstrated that this program is not only theoretically wise but practically sound, further comment seems unnecessary.

I have already stated that the clinics for incipient cases of mental and nervous disorders should be associated with general hospitals and that such clinics should be held at least once each week, and that the clientele of the clinic should not consist of the ex-hospital patients whose evidence of mental aberration or deterioration is frequently all too obvious but the less well-defined cases of mental disorder. It is not surprising that the mother of a neurotic young girl should feel somewhat embarrassed about going to the same clinic for treatment that is being attended by her neighbor's son who is considered crazy in the neighborhood where they live. It is perfectly apparent, too, that there are many advantages if the individual can state that he is attending a certain hospital which treats all kinds of illnesses rather than some particular clinic which is reputed to treat mental cases. The time has not yet arrived when the community at large is willing to look upon mental disease in the same light as a physical ailment. To be sure, we have advanced considerably during the last decade and our attitude toward mental health is more intellectual and less emotional than it was, but as Dr. Southard pointed out, " The fact that there are degrees of civilization among the States of the Union is a fact that negates the idea of organizing the country for mental hygiene by any of the rubber stamp methods so pleasing to the constructors of programs, pleas, and plans in the beloved committees of the great organization societies."[1]

A program for the community care of mentally sick in New England would obviously be unsuited for the South and although the plan I am outlining I believe is perfectly feasible and practical for a State like Massachusetts where mental medicine is already organized, in many other States it would be necessary to precede the organization of clinics by much educational work. Dr. Haven Emerson, in discussing "The Place of Mental Hygiene in the Public Health Movement", stated, "It must consider without reservation that, incomplete as our knowledge is of medicine and the true basis of the laws of health, we already have so much at hand that we fail to use there is no excuse for idleness and that there need be no delay in action.[2]

Although psychiatry fails more in its approach to a science than other branches of medicine, yet, as an art, it requires a skill in performance acquired only by experience, study, and observation. I am firmly convinced that we have already at hand sufficient knowledge which, if properly utilized, will do much to place psychiatry in a respectable place in the scheme of preventive medicine.

The incipient cases of mental disease — it matters not whether they be hysteria or the acute mental changes following a case of encephalitis lethargica — will test the skill and ingenuity of those best qualified to practise psychiatry. It, therefore, behooves the superintendents of the institutions under whose supervision the clinics should naturally operate, not only to delegate to the out-patient clinic a well-qualified psychiatrist, but to provide him with well-trained assistants in the way of a psychologist and a social service worker. I do not hesitate to say that these provisions should be made even at the expense of the institutional cases.

To me there is a glaring absurdity in the operation of out-patient clinics, both in general and mental hospitals. All too frequently the man best qualified by training and experience is devoting his time to the house cases which are invariably well marked and advanced while the cases presenting themselves at the out-patient clinics where the disease is seen early and at its incipient stage, where frequently signs and symptoms are much more vague and intangible, and where conclusions have to be drawn and diagnoses have to be made on hurried examination and insufficient history, are met by the physician of limited experience who ponders away over these most difficult medical problems.

The clinic for the hospital patient on visit has for many years been recognized as a most useful adjuvant for the community care of a selected group of mental disorders. There is no doubt that such a clinic, in conjunction with a well-organized social service, has made it possible for many patients to enjoy community care whose stay would otherwise have been prolonged in the institution. The degree of adjustment these individuals are able to make, of course, depends very largely upon the complexity of the environment to which they return.

It is of the greatest importance to the future welfare of the individual who has already had a mental breakdown that his personal contacts be with those who have an intelligent idea of the patient's limitations, that they understand clearly his deficiencies and peculiarities, and that they manifest an interest in the individual that will assure cooperation with those directing the community care of the patient's life. A great deal can be accomplished through this cooperation to help the patient avoid the shoals upon which so many unstable individuals are wrecked.

No better demonstration of what can be done by intelligent community care is needed than that of the Danvers State Hospital. Seventy-six per cent of the cases that were discharged from that institution have succeeded in making satisfactory economic and social adjustments.

I do not believe that it is particularly important that these after-care clinics be attached to general hospitals or that they be held more frequently than once a month. The success of this type of clinic is largely dependent upon the social service department and the interest and cooperation it is able to stimulate in the community in behalf of the patient.

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[1] From "Zones of Community Effort in Mental Hygiene," read before the National Conference of Social Work, 1917.

[2] Read before a meeting held under the auspices of the National Committee and the Massachusetts Society for Mental Hygiene at Boston, February 8, 1922.

In closing, I can only repeat what I said on another occasion about this same subject, " I know of no way in which the state can do more to care for the mental health of its citizens than by well organized out-patient clinics. Not only do they provide for the treatment of the maximum number of patients at the minimum cost, but they bring the patient into contact with the psychiatrist and his organization during the early and incipient stages of disease. Assistance is made available at a time when treatment is most hopeful, and when the patient is still capable of realizing his own needs. Treatment is given in a manner that makes it acceptable and compatible with the patient's social and economic obligations. It permits him to carry on his work during his rehabilitation and to continue to dwell in the community, in the environment in which he must manage to live if he is to play a part in the social scheme of things. He learns to carry his burden, not by laying it down and retiring to an artificial environment, but by developing new methods of meeting difficulties, minimizing waste effort, permitting some one else to help in eliminating irritating environmental factors, and thereby overcoming worry and anxiety that are out of all proportion to the situation. Whatever the solution may be, if it is achieved without hospitalization, much has been accomplished for the individual and for the state." [1]

CHANGES IN STAFF.

Herbert E. Herrin, M.D., promoted from Assistant Physician to Senior Assistant Physician at Boston State Hospital, October 1, 1923.

Roy D. Halloran, M.D., promoted from Assistant Physician to Senior Assistant Physician, December 1, 1923.

Charles Kirkland, M.D., appointed as Assistant Physician at Monson State Hospital, September 18, 1923.

Chas. Werne Beals, M.D., resigned as Assistant Physician at Danvers State Hospital, September 27, 1923.

Lillian G. Moulton, M.D., appointed as Assistant Physician at Danvers State Hospital, October 9, 1923.

Clarence A. Whitcomb, M.D., granted eight months' leave of absence from Worcester State Hospital.

Solomon L. Skvirsky, M.D., resigned as Junior Assistant Physician at Bridgewater State Hospital, September 30, 1923.

Joseph A. Selinsky, M.D., appointed Dentist at Psychopathic Hospital, Aug. 27, 1923, resigned October 13, 1923.

Arthur W. Young, M.D., promoted from Medical Interne to Assistant Medical Officer at Psychopathic Hospital, August 1, 1923.

Cora H. Morris, M.D., promoted from Medical Interne to Assistant Medical Officer at Psychopathic Hospital, September 1; resigned November 9, 1923.

Henry H. Hart, M.D., appointed Medical Interne at Psychopathic Hospital, October 1, 1923.

Bernard Steinberg, M.D., appointed Assistant Medical Officer at Psychopathic Hospital, October 23, 1923.

Elizabeth I. Adamson, M.D., appointed Assistant Medical Officer at Psychopathic Hospital, November 1, 1923.

Peter J. Dalton, M.D., appointed Dentist at Psychopathic Hospital, Nov. 12, 1923.

Sydney K. Smith, M.D., appointed Medical Interne at Psychopathic Hospital, July 31, 1923.

Ella C. Wakeman, M.D., resigned as Medical Interne at Psychopathic Hospital, September 22, 1923.

Max Bennett, M.D., resigned as Assistant Executive Officer at Psychopathic Hospital, October 22, 1923.

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[1] "Results and Future Opportunities in the Field of Clinics, Social Service, and Parole," read before the Mental Hygiene Division of the National Conference of Social Work, Providence, Rhode Island, June 29, 1922.

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GEORGE M. KLINE, M.D.
DOUGLAS A. THOM, M.D.

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"SELLING" MENTAL HEALTH

By George K. Pratt, M.D.

MEDICAL DIRECTOR MASSACHUSETTS SOCIETY FOR MENTAL HYGIENE, BOSTON.

No one appreciates more keenly than those working in and with the state hospital organization the intensity of the misunderstanding surrounding mental diseases in the minds of the lay public. Seemingly no amount of explanation, opportunities for observation, or use of either the written or spoken word by hospital superintendents and their staffs make more than a passing dent in the universal delusion that somehow mental sickness is a disgrace. Reluctantly, then, has come the conviction to some that the task of educating the public to a healthier point of view must largely be undertaken by some private and unofficial agency unconnected with the state machinery.

In this way can be avoided part of the unwarranted but quite real distrust and suspicion which discounts in advance whatever a representative of the official state hospital system may say on the matter.

Such an agency is found in the Massachusetts Society for Mental Hygiene with its rapidly growing membership of sympathetic and understanding lay persons.

Just how an educational Society of this nature can supplement and assist the clinical work of State hospital groups is shown by the close but wholly unofficial liaison between the Division of Mental Hygiene of the State Department of Mental Diseases and the Massachusetts Society for Mental Hygiene.

Keenly aware of the desirability, if not indeed, of the necessity, for an intensive campaign of public education to precede the establishment of any of the new Division's out-patient preventive clinics, Dr. Thom, Director, sought the assistance of this private Society. Coincidentally at this time the Society had completed arrangements for a program of decentralizing some of its activities from the headquarters in Boston to certain strategically located communities throughout the State. Thus it happened that the two organizations, the State Division of Mental Hygiene on the one hand and the Massachusetts Society for Mental Hygiene on the other, pooled many of their activities into a joint program. The order of procedure called for the selection of a community for the establishment, first of a regional branch of the Society and next of a preventive clinic to be conducted by the Division.

Once a community is selected, a representative of the Mental Hygiene Society makes initial contact with one or two of its most prominent social service executives to whom he explains fully the proposed plan and asks for advice regarding the inevitable peculiarities of that particular city. Be it placed to the credit of Massachusetts' forward-looking social agencies that in only one instance have these plans failed to meet with sincere and enthusiastic support from the outset. The next step consists in cautiously adding several more sympathetically inclined citizens to this little initial group, and then very carefully laying out a six to eight month's campaign of public education to precede and pave the way for the clinic.

Perhaps an opportunity arises to furnish a mental hygiene speaker to a Woman's Club meeting. Possibly the Chamber of Commerce or the Rotary Club at one of their noon luncheons requests a talk. At any rate, speakers are furnished here and there for two or three months with gradual increasing frequency, care being taken to see each time that previously prepared newspaper copy is freely used. All this time the initial group of five or six have been sounding out others until the time comes, usually about the fourth month, when a definite, if temporary, organization becomes possible. Some prominent and influential business man, clergyman, or educator who has been thoroughly "sold" on the idea is requested to call a meeting over his signature to discuss plans for a mental health conference. To this are invited a selected group of men and women noted for their civic-mindedness and their interest in community betterment. These include physicians, business men, teachers, social women, ministers, and others. From this group is finally selected a "Committee of Sixty" headed by the Chairman who called the meeting.

Events from this time on move rapidly. A date and a place (usually the High School Auditorium) are secured for a mass meeting. Sub-committees on Arrangements, Publicity, and other details are appointed. A community "Mental Health Week" is declared, either officially by the Mayor of the city, or unofficially by the Committee Chairman. A carefully worked out program of newspaper publicity is prepared in advance and released to the local press over the signature of the Chairman. During the "week" an interesting window exhibit is usually placed in some prominent down-town store. This display also carries several signs announcing the mass meeting which is to conclude the "week." On some occasions a volunteer worker is stationed inside the store to distribute advance programs of the meeting and to answer questions. This exhibit is always of a cheerful nature stressing childhood mental *health* rather than the horrors of morbid mental disease.

If the city possesses a ministerial association, their chairman is sought out and asked to send to each member a request to read from the pulpit on the last Sunday preceding the meeting a brief notice of it, urging attendance. The Superintendent of Schools has always in our experience proven most cooperative and agrees not only to place a copy of the program in the hands of each teacher, but often volunteers to send a departmental letter urging attendance as well.

"Mental Health Week" opens with a series of addresses to clubs and organizations. Sometimes on the opening night the practice of using the wartime "4-minute speakers" for theatres and movies has been revived. In addition it has been found helpful to hold one or two so-called drawing room meetings of a formal nature in the homes of socially prominent persons, inviting a rigidly selected group of guests.

Finally comes the concluding mass meeting. To emphasize the medical and public health aspect of the occasion nurses in crisp uniforms from the local hospital or alumnae association serve as ushers. The high school orchestra is frequently secured to liven up the evening, while on the platform are seated the speakers, the Chairman, and an invited group of dignitaries including, if possible, the Mayor, a judge or two, the Superintendent of Schools, a Protestant, a Catholic, and a Jewish clergyman, the President of the County Medical Society, and others.

The speakers are selected for their state-wide prominence in psychiatric affairs and always include the Superintendent of the nearest state hospital for the insane. The meeting should never exceed an hour and a half in length and no single address should consume more than twenty minutes.

The final number on the program is a talk by the Medical Director of the Mental Hygiene Society who reinforces what the preceding speakers have said about the need for the proposed clinic and who then announces that then and there is to be formed a local branch of the Mental Hygiene Society to carry on under local and familiar conditions the general program of the Society, and in particular to act as sponsors and "feeders" for the clinic. Membership cards with tiny pencils attached are distributed by the nurse-ushers, and after a few moments the signed ones are collected. An announcement is then made that the Clinic will open on a definite date (usually within a week) and details of time and place are given, after which the Chairman closes the meeting.

All this elaborate preparatory work incident to the opening of the Clinic calls for an enormous expenditure of energy. It is worth it, however, for the clinic is enabled to function to its capacity from the beginning, and no time is lost dispelling popular misunderstanding or in laboriously explaining its purpose and the kind of cases amenable for treatment. Furthermore the local committee of the Mental Hygiene Society (which usually numbers from one hundred to one hundred and fifty persons) feels a certain amount of responsibility and local pride in keeping the Clinic permanently supplied with suitable material.

Naturally in each city where the above plan has been put into operation many modifications, made necessary by local conditions, have been undertaken. This is, however, an accurate description of the average *modus operandi.* The result is that the State Division of Mental Hygiene is enabled to expand its out-patient preventive clinics under the most favorable auspices, while the Massachusetts Society for Mental Hygiene finds it possible to link up in a practical and concrete way its educational work with a clinical program. Both parties have freely expressed their gratification with the way their respective activities interlock and supplement each other, no small part of the success of which has been due to their generous co-operation and absence of friction.

RE GENERAL PARESIS

Copy of a Communication sent to General Frank T. Hynes, Director, U. S. Veterans' Bureau, Washington, D. C.

By William A. White, M.D.

SUPERINTENDENT ST. ELIZABETH'S HOSPITAL, WASHINGTON, D.C.

I have the honor to call to your attention the case of C.H.P., who became a beneficiary of the Veterans Bureau on January 26th, 1923, at which time he was discharged from the Navy on account of his present disability. At first he was awarded temporary total disability and his claim was adjudicated under the Treasury decision No. 59. An award of compensation was made from the date of his discharge from the Navy. On August 16th, 1923, the Veterans Bureau notified the Hospital that this patient's claim had been disallowed as the case was one of general paralysis, not due or incident to the service. (General Counsel's Decision).

I desire herewith to ask for a review of the decision disallowing this patient's compensation, and in so doing I shall discuss the whole question of the disallowance of compensation for general paralysis, which I understand has been made upon the basis that the disease is due to the patient's own wilful misconduct. For the purposes of presenting this situation as clearly as I can I shall discuss the general question first and particularize with reference to patient C.H.P., afterward.

In the first place, the decision which excludes a patient with general paresis from compensation because paresis is due to the patient's own wilful misconduct, is a decision based upon moral grounds,—moral grounds, I take it, which have their basis in a theological conception of man's duties and responsibilities. This aspect of the situation I am in no wise competent to discuss. I can say, however, as a student of the activities of the human animal, that the mating instinct may properly be included as an instinct which results in impulses to conduct which in the true legal sense of the term are irresistable. It is essential, in the nature of things, that this should be so. The mating instinct is the strongest instinct that animates the living being.

If there were any other instinct that were stronger the particular animal or species in whom that was true would perish from the face of the earth. It is also true of the human animal that this instinct is at its maximum strength at about that time in life when the young man enlists in the military forces, and that it is the function of society and education to help the individual to bring this and other instinctive tendencies into line with social requirements and under his command so that he may control them, at least under usual circumstances. The fact cannot be escaped that the military forces tend to destroy the orderly progress of education and restraint, not infrequently because they create or constitute an artificial environment to which the young man has to adapt, and with respect to his sex instincts this environment presents greater difficulties, as a rule, to that from which he came. The military environment presents no outlet for the sex tendencies in their sublimated forms which are adequate to prevent the damming up of the mating instinct and its outbreak in types of activity which are often disastrous.

One more reference to the moral situation which I cannot avoid making: If, by any process of interpretation, right or wrong, the soldier's general paresis can be conceived to be due to his own wilful misconduct, by which is meant, I take it, his conduct at the time he acquired syphilis, then is the United States Government so exacting that such conduct can never be forgiven? Does not a life, subsequent to such an act of fate, which is constructive, law-abiding and worthy in every particular, in any sense condone this offense? When the young boy, who subsequently develops paresis, acquires his initial lesion, he has forfeited his life. Nature in this respect is implacable. He must die. Is it the policy of the United States Government, in its paternalistic care of the discharged soldier, to add to this death sentence of nature further indignity and hardship?

The decision which deprives the soldier of compensation because of general paresis is, in my opinion, unjust, because glaringly at variance, as I understand it, with decisions touching similar situations. It is my belief that a soldier who suffers from syphilis of the circulatory system and who develops as a result cardiac disease, aortic disease, and aneurism, or whose cerebral vessels are involved, and who develops as a result an apoplexy dependent upon such a disease which eventuates in a hemiplegia,—it is my understanding I say—that cases of this sort would be compensated, although they are as directly the result of syphilis as is general paresis. Why, therefore, should syphilis of the central nervous system be picked out as being non-compensable while these other conditions are permitted to stand? We have a similar situation with reference to cardiac disease due to infection; for example, tonsilitis,—which tonsilitis may have antedated the man's entrance into the service, and he may not break down for many years afterward as a result of such cardiac involvement, but yet the question here is never raised. Why not? It is on all fours with the syphilis question. And who knows, for that matter, whether the tonsilitis was acquired under circumstances of moral turpitude or not? Might not the man have been drunk and exposed himself as a result, and so acquired his infection? But here the moral issue is not raised.

The difficulty, as I see it, is that the Comptroller General and the General Counsel of the Veterans Bureau have viewed the situation much too simply. Paresis is a syphilitic disease; syphilis is a venereal disease; venereal diseases are due to vice; vice is wilful misconduct; therefore paresis is due to wilful misconduct! It is just this argument that I believe is fallacious. It is true that paresis is due to syphilis and dependent upon syphilis, but paresis is a particular kind of syphilis. It is syphilis of a particular type of tissue, and produces a disease which is unique and different in its clinical manifestations, its course, and its outcome, from other syphilitic diseases. If paresis can be said to be due to syphilis, in accordance with the line of argument suggested above, and we stop there, we cannot possibly substantiate our position. Whereas syphilis may be a necessary element in the production of paresis, it is perfectly obvious that it cannot be the only element. If it were then every person who had syphilis would, if they lived long enough, develop paresis, and this we know is not the fact,—the fact on the contrary being that only a relatively small percentage of syphilitics subsequently develop paresis. It becomes, therefore, necessary, if we are to understand this disease, to determine what are the other factors which are involved: What are the factors which determine that syphilis shall take this particular course and develop in this particular way? Here is the crux of the situation. The question that is raised is a scientific and a medical question, and not a legal, legislative, or administrative question.

In the first instance it is obviously absurd to presume that paresis as a phase of syphilis was in any way determined by the individual's original misconduct, if you will. His syphilis may have been the result of that misconduct, but if other factors are essential to determine that syphilis should develop into paresis then it cannot possibly be held that his misconduct had anything whatever to do with the particular turn that his disease was forced by auxiliary factors to make and which resulted in his paresis.

There have been many theories which have been advanced to account for the reasons why syphilis should develop into paresis, and whereas these various theories, one and all, may not be conclusive in demonstrating what the reason or reasons may be, they seem to me, in our present state of knowledge to be conclusive as demonstrating that there *are* reasons, and my main thesis is that the existence of such reasons cannot properly be excluded from the consideration of these cases as to whether or not they are in line of duty. I will briefly suggest some of the theories that have been offered:

A recent theory to account for the development of paresis is that there is a special strain of spirochaete, the so-called neurotropic strain, which is specific in its tendency to involve the nervous system. Another theory is that individual susceptibility varies: the capacity to produce anti-bodies is not the same in every individual, Bolton, some years ago, advanced the theory that paresis occurs only in those whose cortical organization is defective and who would otherwise have developed mental disease, at least probably would have under conditions of stress which would tend toward mental instability. Osnato has shown, after a very careful study, that cranio-cerebral traumata may be precipitating factors in causing paresis to develop in a syphilitic individual. The question of toxemias,—the toxic substances of influenza, other infections, and even of alcohol and ether,—he thinks act in similar manner to trauma, whereas emotional stress and bodily and mental fatigue have been indicted by some writers. (See White: Outlines of Psychiatry, 9th ed., p. 144 et seq.)

Mental and emotional exertion has been thought of as possibly entering into the etiology of paresis. In this particular I would refer to the New York State statistics which show the rate of general paresis per hundred thousand in the urban population to be 8.6 and in the rural population to be 2. In other words, general paresis is more than four times as prevalent in urban than it is in rural populations. This I think is significant as bearing upon the question of mental stress. It is also significant because it is in harmony with the statistics of other mental diseases which indicate that wherever the mental disease may be conceived to be precipitated by stress the percentage is larger in urban populations.

More particularly as bearing upon the question of stress, especially in its military bearings, I would like to cite certain evidence which seems to me to be very suggestive. In the first place it is well known that the interval between primary infection and the development of paresis varies very greatly. We ordinarily expect at least ten years to elapse and not infrequently it is twice that. The main incidence of paresis is in the hemidecades from 35 to 40, and from 40 to 45, whereas the initial infection usually occurs in the adolescent period from about 20 to 25, or about 10 to 15 years after the initial infection. Now it has been noted that under the influence of military life, military stress and war conditions especially, this interval between primary infection and the development of paresis has been materially lowered; in other words, that it tended to develop in the interval from 5 to 10 years,—on the average, roughly speaking 5 to 10 years earlier than it otherwise would. It is significant also with reference to syphilis in general that it has been noticed that among soldiers from the front who were under treatment for any reason evidences of syphilis were present in 20 per cent, while among other soldiers who were under treatment evidences of syphilis were present in only 1.6 per cent, and the conclusion is that old syphilitics are prone to break down under war conditions. (See White and Jelliffe: Modern Treatment of Nervous and Mental Diseases, Vol. I, p. 768).

And finally, bearing upon this general question, I may add that syphilis is by no means necessarily acquired in the presumably orthodox way. In other words, the percentage of so-called innocent syphilis is by no means inconsiderable (See Solomon: Syphilis of the Innocent), although of course the highest percentage of innocent syphilis is probably in the conjugal partners of syphilitics and in children who have inherited the disease, but most of us have known the disease to originate innocently in divers and sundry ways. For example, the surgeon may acquire syphilis by infecting his finger during an operation, as may the obstetrician or the doctor performing an autopsy or the nurse attending a syphilitic patient. The disease may be acquired from a drinking cup that has been used by a person with an infectious lesion of the mouth or by a mother dressing a syphilitic ulcer of her child. There are naturally innumerable ways in which the disease might be acquired and in which it is not infrequently acquired, so that the decision that because a person has syphilis it has been necessarily due to his wilful misconduct, even assuming that the conduct that is in mind is wilful and is misconduct, is not warranted by the facts.

Now to particularize with reference to the case in point: namely the case of C.H.P., Chief Gunner's Mate, U.S. Navy.

Our record shows that this patient was born February 8, 1894. At the age of 17 he enlisted in the Navy, where he served continuously for 11 years, until his present illness, and during this service he reached the rank of Chief Gunner's Mate. A survey of his Naval history is recorded as showing an excellent record. He denies ever having had the primary lesion of syphilis, but is recorded as having had a secondary eruption in 1912. He was placed on the sick list September 18, 1922.

If this boy had syphilis at the time he was admitted to the Navy, the Navy had every resource available for discovering that fact, and might have refused to enlist him, If they did not do so he could not be made to suffer. The matter, however, is worse than this. It appears that he had his initial symptons during his service in the Navy, that the Navy authorities were cognizant of this fact, and that he undoubtedly was treated for syphilis by Naval physicians. He was not discharged from the Navy, however, because of the syphilis, but he was continuously employed and his services utilized for ten years thereafter, which included the period of the World War.

The fact of the knowledge on the part of the Navy of the existence of syphilis, and the further fact that they continued to employ him for ten years thereafter, constitutes, in accordance with a well-known principle of the law, the condoning of any offense that may have been implied by the existence of syphilis. This principle, under the common law, is known as the principle of estoppel, and to my mind obviously applies to the case of C.H.P.

It cannot be successfully argued that withholding this boy's compensation is a reasonable form of punishment for a delinquency committed say 10 years ago. It is a well accepted principle of penology that punishment, in order to be effective, must follow closely upon the heels of wrong-doing. In this instance the relationship is so remote in time that no possible service can be conceived to flow from such discipline. Neither can it be successfully argued that taking away this boy's compensation is in line with the practice in similar cases by the military authorities. The officers, particularly the medical officers, know perfectly well that the enlisted men under their command resort to immoral practices. The medical men are called upon repeatedly to treat venereal disease, and yet men are not discharged from the Army or Navy because they indulge in such immoral practices or because they get venereal disease. In fact this boy in question evidently had syphilis and it was well known that he had it. The only instance in which this form of treatment is meted out is when the individual has been peculiarly unfortunate, when, in fact, he has already been touched by the hand of death. Why should only the individuals who are the most unfortunate of all be so treated? I feel that to rake up a piece of past history like this, after a man has given the best years of his life to service in the military forces,—after he has established a record of efficiency and good citizenship,—after he has married and acquired the responsibilities of a family,—to rake up such a record as this, which disgraces him in the eyes of his associates, demeans him in the eyes of his family, destroys the parent-ideal of his children, and pauperizes him and his family when he is sick unto death and can no longer defend himself, is a form of cruel and inhuman punishment within the meaning of the Constitution.

Summing up briefly the argument, the main points are as follows:

1. Additional causes, other than syphilis, are necessary to produce paresis.
2. These additional causes are frequently in line of duty.
3. There is every reason to believe that such additional causes which were in line of duty were operative in the case of Chief Gunner's Mate, C.H.P.
4. That denying compensation to C.H.P. is inconsistent with the practice in similar cases of disease traceable to syphilis and of disease traceable to immoral conduct.
5. Inasmuch as the record shows that the Navy was in a position to have knowledge that C.H.P. had veneral disease and that it continued to employ him, the Government is automatically stopped from disciplining him for any form of misconduct that is presumably implied by the presence of syphilis.
6. It is contrary to the Eighth Amendment to the Constitution.

In closing I have the honor to request that you will take such steps as may in your judgment be wise and proper looking towards a revision of the decisions in the case of C.H.P. which deprives him of his compensation on the ground that his illness is due to his own wilful misconduct, and to ask your indulgent consideration of a communication which would be inexcusably long if the subject were less important.

THE THERAPEUTIC VALUE OF THE WET SHEET PACK

By Rebekah Wright, M.D.

DEPARTMENT OF MENTAL DISEASES. HYDROTHERAPEUTIST.

The wet sheet pack is the envelopment of a person in one, two or three linen or soft cotton sheets that have been wrung out of water at a prescribed temperature. The cold moist fabric is held snugly against the body by two or more methodically adjusted woolen blankets. In hot weather one blanket is often sufficient.

Patients who have recently arrived at the hospital, upon seeing or hearing of packs being given to excited, violent or destructive patients during or immediately following disturbed periods, are apt to get the wrong impression of the pack and think of it as a restraint, punishment or substitute for seclusion. Some fault-finding patients emphasize this erroneous interpretation. Some poorly trained attendants have contributed to this mistaken idea by threatening patients with "ice packs." In order to eradicate this wrong interpretation of the wet sheet pack, it is desirable that every attendant be instructed in the correct application of the pack within the first two weeks of his hospital service. He is then prepared to assist the staff physician, who is endeavoring to obtain the best results from this valuable remedial measure, by reassuring the patient who must take the treatment and correcting the wrong impression which the new patient and his visiting friends may have received.

While a correctly applied pack does limit the movement of the patient, *it is never, under any circumstances, prescribed as a restraint, punishment or* *substitute for seclusion.* It is given for its therapeutic effects only. About three-fourths of the excited patients to whom wet sheet packs are applied become quiet and sleep immediately after the envelopments are completed. If an extremely excited patient is struggling to be released it is necessary to apply "sheet restraint" for fifty or sixty minutes after the envelopment is completed while awaiting sedation. Three sheets are folded lengthwise several times, placed across the patient and tucked under both rails. They are placed across the knees, the flexure of the thighs and the chest and shoulders. Great care is used in placing them to prevent any interference with breathing, cutaneous circulation of blood and other vital activities. A patient thus restrained is very carefully watched. Two of the cover sheets are removed as soon as the patient becomes quiet. The third remains in place as a safeguard against falling if the patient should turn upon his side. If sedation does not ensue within an hour after the pack is completed the patient is removed. The greatest danger is that of heat prostration. If any signs of superheating occur the treatment is immediately terminated. The skilled hydriatric nurse so manages the pack as to prevent over-heating of the patient.

In Regard To Technique.

The best way to master the details of the envelopment is to practice it from six to ten times upon an amiable model under the direction of a competent instructor. Such instruction comprehends the taking of radial and temporal pulse, counting respiration, reading the bath thermometer, filling an ice cap and a hot water bottle, folding and applying cold compresses and administering a foot bath.

Two methods of envelopment are described in another article. They and their accompanying illustrations are intended for the guidance of physicians, nurses or attendants who are willing to spend some time in mastering the details of the correct envelopment and in instructing others in the technique of the treatment.

Temperature.

The sheets of the pack are saturated with and wrung out of water between 48 and 70 degrees F. For timid persons who are delicate, neutral packs, water between 92 and 97 degrees F., are sometimes used. Some frail, poorly nourished, very active young patients are given brief hot baths, 102 to 106 degrees F., of five minutes duration preceding the envelopment. The exact temperature of the water for the pack sheets is determined from the patient's general physical condition, his reactive capacity and the temperature and humidity of the air of the room. In cold and damp weather every precaution must be taken to guard against the patient's "taking cold."

When the foot bath and hot water bottle are used the temperature of the water for the former should be between 104 and 110 degrees F., and for the latter 116 degrees F. The towel compresses should be immersed in and wrung out of water between 42 and 50 degrees F.

The Room.

It is imperative that the temperature of the air of the room in which the cold wet sheet pack is administered should not be lower than 70 degrees F. Have the room well supplied with fresh air while the patient is in the pack. There is no objection to reducing the temperature of the air of the room while the patient is well covered. The room must be at a comfortable temperature and free from drafts while the patient is being removed from the pack. It must have a subdued light.

Requisites.

Physicians who prescribe many packs and nurses who administer them prefer an especially constructed bed. It should be 30 inches high, 28 inches wide, 78 inches long and have a continuous metal tubing frame with head and foot rails of equal height extending just above the mattress. It should have a strong, firm spring. Its side rails should be of angle steel and should be placed four inches below the level of the spring. If they are of metal tubing each must be surmounted by a carefully applied, full length steel bar one-fourth inch by three inches with smooth, rounded ends. These furnish a good attachment for the protection sheet which safeguards every patient enveloped in a pack. They serve likewise for the two additional sheets sometimes required for restraining a very violent, extremely excited patient until sedation is obtained. The feet of every bed should have flanges to prevent tipping. In using other beds for packs, select those that are high and narrow and that have low end rails without upright rods. If it is not possible to have the legs lengthened to secure height, two or three mattresses may be used. Always reverse the ends of the bed, using the foot end for the head. Try to obtain beds that have angle steel side rails, particularly for the most disturbed patients. The bed must have a firm, closely tufted mattress five inches in thickness. This must be covered with a firmly adjusted, full length rubber sheet of best quality.

Pillows are acceptable to coöperative patients. A feather or soft hair pillow, 8 by 16 inches, is a suitable size to alternate with the ice cap. A large pillow may be used if the patient wishes to have both head and shoulders slightly elevated. Suitable muslin pillow-slips are required.

Other requisites are 2 single woolen blankets 84 inches wide and 102 inches long, one single blanket, and in cold weather two of the usual hospital size, a large sheet 84 inches long and three sheets of the usual hospital size. Linen sheets, if available, are more satisfactory than cotton ones. Two soft compress towels, about 14 by 34 inches, an ice cap, a hot water bottle, a nine-inch basin, a small pitcher for drinking water and a drinking cup should be upon an adjacent stand.

EFFECTS.

The ultimate results of the pack depend upon the extent and character of the patient's *reaction* to the application of the cold, moist sheets and the effects obtained from the application of cephalic cold.

Action. When the cold moist sheets come in contact with the skin of the whole body the first effects are those of *action* which are common to all brief general applications of cold. They are a disagreeable sensation of cold, cooling of the skin, contraction of superficial muscles, sometimes shivering, pallor and cutis anserina, checked, then quickened and sometimes gasping respiration and checked insensible perspiration. The contraction of the skin drives the blood out of its vast capillary network into the interior of the body, dilating the large internal vessels and slightly elevating internal body temperature. At the same time a contraction of involuntary muscle fibres concerned in regulating the circulation of blood through the minute vessels of the spleen, kidneys and other viscera takes place because of the application of cold to the skin areas that are in reflex relation to them. The heart beat and the arterial pulse are quickened and arterial tension is increased.

Reaction. Circulatory reaction begins almost instantly and thermic reaction is usually established in from five to twenty minutes after the cold, moist sheets are applied. The sensation of chilliness disappears. The skin becomes warm. The arrectores pilorum and elastic fibres of the skin relax. The skin returns to its normal smoothness and hue and often becomes pink. Respiration becomes easier, slower and deeper. Insensible perspiration begins. The large internal blood vessels contract. Internal temperature is slightly lowered. The cutaneous capillary network, capable of containing one-third of the blood of the body, becomes distended with blood. The pulse is slowed and blood pressure is slightly elevated. The rapidity and intensity of the reaction depend largely upon the temperature of the cold moist sheets and the method of their application. A full blooded, excited patient will react promptly to sheets wrung out of water at a temperature of 48 to 60 degrees F. It would save considerable labor if some of the surface heat could be abstracted from the flaming skin of an *active*, excited patient by momentary envelopment in a cold dripping sheet just previous to the application of the sheets of the pack. If this is not done and much heat is abstracted from the patient's skin by the large and cross sheets of the pack, so that they immediately become warm, it is necessary to replace them by others which are as cold or colder.

If there is any unusual paleness of the face, blueness of the lips or shivering, the patient is not reacting to the cold and should be removed at once and subjected to some warming procedure, as a warm bath, wrapped in hot blankets or the application of hot bottles to his sides and feet under warm covering. He should be given a hot stimulating drink.

For convenience we speak of the *cool, neutral and superheated* stages of the pack. Action takes place and reaction begins during the cool stage and will extend into a superheated stage unless measures are taken to prolong the neutral stage and to terminate the treatment at the end of that calmative period. The neutral stage may be said to have begun when the surface of the body and the sheets and the moist air within the blankets surrounding the body have reached the normal average temperature of the skin, about 96 degrees F. To prolong this stage after reaction sets in, remove the third or cover blanket. If the room is warm and the patient continues quiet, it is sometimes possible to remove one-half of the outer enveloping blanket.

Some disturbed patients are fearful during the first few minutes after being enveloped, especially if it is the first treatment. This feeling of apprehension soon disappears and a sensation of calm pervades the system. The arteries of the brain, which were dilated during the cool stage, contract during the neutral stage, decreasing the amount of blood in the brain and facilitating the accumulation of lymph in its large lymph spaces. This condition of anæmia of the brain and the presence of an abundance of lymph favors sleep and the repair of nervous tissue.

Wet sheet packs may be so managed as to secure tonic, sedative, eliminant or antipyretic effects. While they are administered to the mentally ill for their sedative effects, at the same time circulations of the blood and lymph are improved, elimination is promoted, metabolism is stimulated and nutrition is heightened when they are given daily. The good secondary effects are doubltess partly due to the stimulation, through the circulatory reaction, of torpid liver, passively congested kidneys and sluggish bowels.

Duration

The wet sheet pack cannot be prescribed for any definite length of time. The duration should be while the patient is quiet and comfortable. It is customary to prescribe wet sheet packs "one hour or while sedative effect continues." It is during the neutral stage that sedation occurs. As soon as there is any indication that the neutral stage is over the patient should be removed from the pack. The period of sedation varies from one-half to three and one-half hours. Occasionally, if the patient sleeps, it may be four or five hours. In the author's experience, a patient is seldom comfortable in the pack for a longer period than three and one-half hours. If the patient sleeps in the pack, he should usually be removed immediately after he awakens. If a patient becomes restless after a short period of quiet or if he does not become quiet within 50 or 60 minutes, he should be removed at once. A pack of short duration may be immediately followed by another or by a prolonged neutral bath or by a period of rest in bed or the patient may, occasionally, be permitted to sit up fully clothed.

It occasionally happens that, in spite of careful technique and management, the desired sedation is not obtained. Sometimes patients react too vigorously, passing directly from the cool to the superheated stage. This is shown by talking, redness of the face, quickened pulsation of facial and temporal arteries, warmth of face and head and finally perspiration. After his removal from the pack, it is sometimes possible to continue the ice cap to the back of the patient's neck for 15 or 20 minutes, thus counteracting cerebral congestion.

CEPHALIC COLD WITH THE PACK

Continuous cold cephalic applications are used to counteract active cerebral congestion. Cerebral congestion always accompanies excitement and a certain amount of it usually accompanies agitation so that in treating patients of this class with cold or neutral wet sheet packs it is necessary to be prepared to apply cold to the head as soon as the blanket envelopment is completed. If the patient becomes quiet while being enveloped and there is no undue warmth or flushing of the face, the cephalic cold should be omitted. Its application is often a severe tax upon the tact and ingenuity of the nurse.

The ice cap or ice poultice to the back of the neck and cold compresses to the cheeks and forehead are the usual forms of application.

A prolonged application of cephalic cold causes contraction of the cerebral arteries, thus lessening the amount of blood in the brain.

A cold application to the head which includes the neck contracts the vertebral and carotid arteries and all of their distal branches.

Continued cold to the head lowers the temperature of the brain.

The cerebral thermic centers are depressed.

Heat production is diminished and vital activity is lessened.

The cold compresses are discontinued as soon as warmth and flushing of the face subside. They may be applied for six, ten, fifteen or even twenty minutes.

The ice cap may be discontinued early, within a few minutes or within a half hour if the patient is quiet and the face not warm or flushed. Often a patient will sleep when the ice cap has been removed and replaced by a comfortable pillow. Others require the cephalic cold throughout the pack.

The vascularity of the scalp is so great that the circulation continues unimpaired under the prolonged application of ice.

MANAGEMENT AND AFTER–CARE

Stimulation of the activity of the kidneys is one of the frequent reflex effects of the application of the cold, moist sheets. Except in rare cases where the physician considers gavage necessary or a frail patient needs warm nourishment, the author discourages giving liquids just before or during the pack. While drinks are not offered, water is never withheld if the patient is thirsty. The patient should void urine just before the sheets are applied. Peristalsis of the bowels is also stimulated by the general application of cold. It is desirable that the patients' bowels should have moved previous to the administration of the pack. Enemas are practical for coöperative, sleepless or restless patients. Even with precautions, patients sometimes have to be removed from the pack for attention to the emunctories. A case of involuntary soiling should be removed, bathed and re-enveloped.

The prolonged warm moisture of the pack renders the skin of the whole body unusually sensitive. It is, therefore, important to thoroughly dry the skin, dust with talcum powder, and shield from drafts after the treatment.

It is sometimes practicable to follow a pack administered during the day by a neutral shower, between 92 and 97 degrees F, of a few seconds duration, at a minimum pressure. If it can be given without stimulating a circulatory reaction and again exciting the patient, it enhances his feeling of well-being. The patient is dried in a warm sheet *without* friction.

When the treatment is administered at night the patient is removed from the pack when quiet has been induced, dried in a warm sheet without friction, dressed in a warm night-robe, given a glass of hot milk and placed in bed.

THERAPY

The cold wet sheet pack is administered for its sedative or hypnotic effects to restless, sleepless or excited patients at sometime during almost every psychosis.

In the pack room of the tonic bath suite wet sheet packs are the most valuable "preparatory treatments" available for sleepless, restless, or hypomanic patients and those recovering from manic attacks. They are followed by the usual needle sprays and douches.

CONTRAINDICATIONS

Cold wet sheet packs are not prescribed for very frail, elderly or middle-aged patients or for those who have organic heart lesions or arteriosclerosis.

PRESCRIPTIONS AND NOTATIONS.

The ward physician prescribes the treatments. As it is often necessary to administer several to one patient and desirable to have a record of each on the same page, the following form is used. The physician writes the temperature in the proper space. A space is left for writing "as ordered," "once daily" or "twice daily." The physician's initials follow the paragraph relative to recording. This paragraph makes plain to every nurse or attendant the points which must be noted. The blank provides sufficient space for notations on six or seven packs.

HYDROTHERAPY

Name................ Case No.....................

℞W. Sh. Pk. F. one hour or while quiet and comfortable. Record (1) the pulse and respiration before and after treatment, (2) the exact time that the pack was completed, (3) compresses were discontinued, (4) ice cap was changed or renewed, (5) cover blanket was removed, (6) pack was discontinued; (7) whether restless, talking, noisy, quiet or sleeping; (8) whether skin was warm, pink or cool when removed from pack; (9) whether soiled; (10) names of nurses or attendants present.

QUESTIONS FOR REVIEW

1. Define the wet sheet pack.
2. Is the pack ever prescribed as a restraint, punishment or as a substitute for seclusion?
3. What temperatures are used for the moist sheets of the pack?
4. Describe the room in which the pack should be given.
5. Name the requisites for the pack.
6. Describe the manifestations of *action* when the cold moisture strikes the skin.
7. Describe the manifestations of reaction to the cold moisture of the pack.
8. Discuss the cool and neutral stages of the pack.
9. What measures would you take to prolong the neutral stage of the pack and to prevent superheating?
10. When and for what purpose would cold compresses be applied to the cheeks and forehead.
11. When and where should the ice cap be placed?
12. Discuss the effects of cephalic cold.
13. Discuss the management and after care.
14. Discuss the therapy of the wet sheet pack.
15. Name the contraindications to the wet sheet pack.
16. How is the wet sheet pack prescribed?
17. Name the ten notations required on each wet sheet pack record blank.

14

THE TREATMENT OF ENDOCRINOSES WITH PARTICULAR REFERENCE TO THE FEEBLE-MINDED *

By Oscar J. Raeder, M.D.,

INSTRUCTOR IN PATHOLOGY AND PSYCHIATRY, HARVARD MEDICAL SCHOOL.

It is noteworthy that twelve cases (over 1 per cent) of frank endocrinopathy were found in 1167 school children which latter were chosen with special care to get an average segment of the entire school population of the State of Rhode Island.[1] How many more of these children were subject to milder types of glandular imbalance? In a careful survey of 849 cases, the greater part of the population of one New York institution for the feeble-minded, Potter[2] showed that 314 or 37 per cent showed evidence of glandular disturbance or defect. In ruminating over these and other facts bearing on endocrinology in the feeble-minded which have been swallowed down with the mass endocrine discoveries, we are struck by the importance which disturbances of the ductless glands assume in regard to that branch of mental hygiene, viz., the prevention of mental defect. Since the internal secretions are so closely linked with the physical growth and the mental development of the child and even the infant, and since but little can be done to modify a malformed organ once the developmental stage is past the importance of early therapy in these cases is obvious.

We have to deal here in general not with a transitory disease or condition imposed upon the organism such as an acute infection or an avitominosis but we have a disturance infused into the very constitution of the individual and which is a vital factor in his personal evolution. In the former instances the individual returns to health with at most a local scarring—the organism is focally affected only—but with an absent or destroyed thyroid gland the defect is general. Here a fundamental constituent is lacking through the whole life time and in addition developmental processes dependent upon its secretion do not take place.

Treatment to be effectual must be instituted before this time period for these developmental processes has elapsed. The fact that many of these cases do not come under observation until the period of the normal evolution of these processes is far advanced or even past, frequently accounts for the slow and relatively little improvement. Our ignorance of many of the details and even fundamentals of the endocrine functions naturally comes in for its share of blame.

We have studied a series of cases at the out-patient clinic of the Massachusetts School for the Feeble-Minded at Waverley and have culled from among them the following 10 cases of which this paper constitutes a preliminary report.

The cases herewith reported are not in general the frank, full-blown cases of unequivocal diagnosis of acromegaly, simple cretinism, uncomplicated Fröhlich's dystrophy, nor yet always even feeble-mindedness[3] as measurered by the Binet Scale—but are mostly cases in which certain combinations of symptoms and signs point to an endocrinopathy. Sometimes this is of a dyspituitary nature, again of a hypothyroid type, whereas others can be no more closely pinned down diagnostically than by branding them as pluriglandular or simply endocrine. The reason for this is obvious; it is an effort to salvage such borderline and ordinarily unrecognized types as might

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* This study was carried out in the Massachusetts State Department of Mental Diseases — Division of Mental Hygiene.

The material is drawn from the laboratories of the Massachusetts School for Feeble-Minded at Waverley, Mass. The author here wishes to express his warmest appreciation and thanks to Dr. W. E. Fernald, Supt., without whose active interest in research this study would not have been possible.

[1] R. I. Mental Hy. Survey, — Nat'l Com. for M. H., New York, 1923, p. 59.

[2] Potter, H. W. "Endocrine Imbalance and Mental Deficiency." J. N. & M. Dis., Oct., 1922.

[3] See Cases No. 4 and 5.

yield to proper and adequate therapy. Too often the fat boy is simply considered a fat boy and allowed to stumble on through school as such, continually handicapped by certain if not marked muscular and mental inferiority. Though we may not be able to diagnose a frank hypopituitarism of the Fröhlich type, yet there may seem to be hypofunction which may be altered by administration of pituitary substance. The majority of the cases presented in this report are of this type.

Case I. (See Fig. 1.)

Fig. I.

HYPOPITUITARISM

(Levi-Lorain Type)

Male age, 14 years
  Physical age, 9 years.
  Mental age, 9 3/12 years.
Height, 49.7 inches (11 inches over average).
Weight, 61 pounds (39 pounds under average).
School Grade, I.

Treatment

Thyroid—Pit.—Irregular—Approx. 3 years.
  Mental age, 10 5/12.
  Height, 56.2 (increase 6.5 inches).
  Weight, 75 pounds (increase 14 pounds).
  Physically, general improvement.
  School Grade, IV.

Date of first visit, October, 1920. Male age, 14, mental age, 9 3/12, height, 49.7 inches (10 1/2 inches too short). Weight, 61 1/2 pounds. (40 pounds under average for his age). Circumference of head 20 (average 20.7). X-ray of skull showed poor calcification. Sella not remarkable. Wassermann negative. Genitalia small. Social reactions normal. Moral reactions, drank and smoked at 9 (this due to bad family conditions). Father was alcoholic. At school he is in the first grade but passed some 1st grade and 2nd grade tests in the school examination.[1] This boy is markedly undersized and under weight for his age. He is 4 3/4 years behind mentally. He did not start school until 12 years. He was always small and frail. He came from bad stock; his father was alcoholic and the boy was abused at home. He was later removed to good home conditions in a boys' boarding school where he was properly fed, schooled and treated medically.

Treatment. He was given thyroid extract during 10 months in which period he gained almost 2 inches in height. He made good progress in school. The treatment was then changed to pituitary which he took for over two years. During this latter period he gained 4.6 inches and increased 15 pounds in weight. He learned well and was doing 4th grade work with good results.

His stature is, of course, still much below the average; he is a "little man" type. This is probably a Levi-Lorain type of hypopituitarism. He has shown improvement in general physical condition as well as a growth of 6 1/2 inches. His conduct is excellent, not drinking or smoking. Interested in work, ambitious, active in boy scout manoeuvers in which he takes a leader's part.

In this case the treatment was of course begun very late. This patient did not come under observation until he was 14 years of age. He was under treatment somewhat irregularly but over a period of approximately three years. During this time he added almost 1/7 to his height, almost 1/4 to his weight, his mental level rose from 9 to 10 5/12 and whereas he had been doing Grade I schoolwork from 12 to 14, he was now doing Grade IV schoolwork with good progress. The environmental improvement during part of the treatment period must be considered in estimating the above changes.

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[1] The examination method elaborated by Dr. Fernald at Waverley is here followed.

This, however, it seems reasonable to suppose could have accounted for only a lesser part of the marked physical and mental progress recorded.

Case II.

First came under observation March 21, 1921. Female age, 10, mental age, 6 6/12. Height, 49.2 inches (average for her age 51.8 inches). Weight, 63 pounds (average for her age 64 pounds). Her span is 47.5 inches. Torso leg ratio 12.5: 27. Circumference of head 19.2 inches (average for her age 20.4 inches). Nose is broad and flat. Palate is high and narrow. Occlusion of teeth poor. Skin is fair and smooth. Hair comes down low on the forehead. Abdomen is prominent. Neck is short and thick. Hands are small and short. Her feet are short and she has worn the same size shoes for two years. Her gait is awkward. She has been one year in Grade I and two years in Grade II. She does housework fairly well. She is social with children of her own age, is affectionate to parents and sister, fond of reading and writing, is not quarrelsome, is obedient. Her father is nervous; one brother is a Cretin and there are cousins on the paternal side who are feebleminded. Birth was at 8 months. Patient became deaf gradually following whooping cough. On account of the fact that there were various signs and symptoms of endocrine disturbance in this case, especially of a cretinoid nature, such as short, thick neck, small, stubby hands and feet, awkward gait, prominent abdomen (her sister was a pronounced cretin) this case was given glandular therapy.

Treatment. Patient was put on pituitary whole gland with small doses of thyroid. This treatment was continued during a period of 1 year and 9 months. During that time she grew 3.2 inches, her weight increased 5 pounds, and she showed improvement in her conduct. She showed better co-ordination in walking and running and also talked better but complained of fatigue and got excited when recounting an incident. Mentally she did not improve, a mental test done 14 months after treatment was begun, rating her at only 4 10/12.

There was general improvement as noted, with the exception of her mental condition. Here we must consider that the patient was deaf and had been so following pertussis at an early age and that she had been losing her faculty of speech (she has recently been attending a deaf school to improve this). The question of the effect of the sense deprivation upon the intellect becomes a pertinent factor.

Fig. 3.

DYSTHYROIDISM.

Female age, 8 4/12 years.
Mental age, 6 8/12 years.
Height, 41 inches (6 inches under average).
Weight, 47 pounds (average 52).
Extremities short.
Hands, short, thick.
Myxoedema, face, hands.
Fussy, cranky, particular tastes.

Treatment.

Thyroid, gr. 1/2 daily—2 1/2 years.
Height, 47 1/2 inches (increase 6 inches).
Weight, 59 pounds (increase 12 pounds).
School Grade, IV, Difficult.

Case III. (See Fig. 3.) Date of first visit, March 17, 1921. Female age, 8 4/12 years. Mental age, 6 8/12 years. Height, 41 inches (6 inches below average). Weight, 47 1/2 pounds (5 pounds under average). Her span is 39.7 inches, should measure 41 1/4 inches. The torso leg ratio is 27: 54. The circumference of the head is 20.2 inches, which is normal. The head is dolichocephalic, being 2 centimeters narrower than normal. Her legs and arms are short; hands are rather short and thick. The bridge of the nose is somewhat depressed. There is a myxedematous condition of the face and hands. Skin rather coarse and dry. Hair fine and abundant. Thyroid gland is palpable. There is a dirunal incontinence. Pupillary reflexes and knee jerks normal. Vasomotor activity. Hands are blue and mottled. She has been doing work in the third grade on trial; progress only fair. According to the school tests at the Waverley Clinic, she was able to pass the third and fourth grade questionnaires. Her practical knowledge is fair. She is unsocial; very definite in her tastes and dislikes. Is affectionate to her parents; does not like her brother; is fond of her sister. Is very fussy about eating. At the age of two years she was very irritable. Her morals are good. She is the oldest of four children. Her father was a twin. Her grandfather also was a twin. Developmentally she was one month overdue at birth. Was breast fed. She had chicken pox at 5, measles and whooping cough at 7.

The clinical picture here is essentially one of Cretinism. There are, however, outstanding features which make this case exceptional. In the first place, she was brought to the clinic on account of nervousness. She has a palpable thyroid which is not ordinarily the case, the thryoid being either absent or greatly atrophied. She is not greatly retarded mentally, her intelligence quotient being 80. We have furthermore the history that this child was breast fed and showed the first symptoms of irritability at the age of 2 years. This would lead us to think that the case was one perhaps of congenital dysthyroidism inasmuch as the infant remained more or less normal as long as it was receiving mother's milk which is known to contain thyroid secretion. After being removed from this source of thyroid, she began to show symptoms.

Treatment. This patient was put upon thyroid and it was found that she could tolerate only very small doses. On 1 grain three times a day her nervousness increased. She appeared very unhappy and there was loss of appetite. The dose was reduced to 1/2 grain three times a day and later to 1/2 grain twice a day. Later when the dose was again increased, she became cross, cranky and irritable and the drug had to be again reduced.

After six months of treatment her incontinence was relieved. She still showed various mental symptoms, a babyish manner, fear of solitude, inability to go to sleep when she was alone in the room.

A year and a half after treatment the school teacher noticed improvement in her conduct. She had fewer tantrums and was less nervous. Finally, two years after treatment was begun she was put on 1/2 grain daily, skipping one day each week. She became more active and did very well in school with the exception of arithmetic.

Physically as a result of treatment she has grown 6 1/2 inches. She is still 6 inches under the average for her age. Her weight has increased 12 pounds. She is still about 10 pounds under average.

We note in this unusual case of Cretinism the following improvements: 1, incontienece of urine is entirely stopped; 2, the patient has taken on a normal rate of growth; 3, her mental symptoms have improved greatly, she is less nervous, she does better work in school although fourth grade work is still difficult for her; 4, her general appearance and nutritional state have improved. She has lost the myxedematous appeareance of the skin and she shows a brighter and more alert facial expression.

Fig. 4.

HYPOTHYROIDISM NOT F. M.

Female age, 13 11/12 years.
    Mental age, 12 1/2 years.
Height, 65.7 inches (3.7 inches over average).
Weight, 128 pounds (19 pounds over average).
    Thyroid large.
    Sella large (in normal limits).
Slow, poor muscle function.
    Willing to do, but cannot.

Treatment.

Thyroid—Pituitary, *8 months.*
Weight, 120 pounds (average 108).
General Improvement. School work excellent.

No Treatment. 10 Months.

Gain in weight, 14 pounds.
Lazy, appetite enormous.
Face, pudgy

Treatment Resumed.

Thyroid, grain 1/5 daily, *3 months.*
Appearance, excellent.
Conduct and scholarship good.
Weight, 140 pounds (average 126).
Height, 66 inches (average 66).

Case IV. (Not feeble-minded. See Fig. 4.)

First came under observation September 29, 1921. Age, 13 11/12. Mental age, 12 1/12. I. Q. 90. Height, 65.7 inches, which is 5 inches above the normal average for her age. Weight, 128 pounds, 28 pounds above the average. The torso leg ratio 17.5: 35.7 inches (normal). Circumference of head, 32.1 inches (average for her age 21.1 inches.) The chin is rather receding. Palate is high and narrow. Mal-occlusion of teeth. Blood pressure 112/70. Hands, sweaty. Hair not remarkable. Thyroid is full. X-ray of the head shows a rather large sella turcica. Neurological examination negative. Doing 8th grade work and making good progress. Her practical knowledge is good. She does housework and cares for children at home. She is sociable and obedient, though formerly in her home which was isolated in a farm district. she was not allowed to mingle with other children. Her morals are good. She is accepted as an equal by those of her age and likes to read and play basket ball. Her father was a suicide and was said to have had a large thyroid. Her mother is a type that worries a great deal. Patient is said to have had St. Vitus Dance at the age of 11 years.

This case is very similar to Case V. She shows skeletal overgrowth and also a marked excess of weight for her age. The sella is rather large but within normal limits. The thyroid is large. Her face shows a slight pudginess. She has on the other hand done good work in school and shown a willing spirit but has been slow and frequently not able to carry on on account of a slight muscle weakness and tendency to ready fatigue.

Treatment. Patient was put on thyroid and pituitary treatment during a period of 8 months. During this time she improved greatly. The pudginess of her face disappeared and subcutaneous tissues were soft and pliable. She became more active and did excellent work in school. She lost 8 pounds in weight bringing her within 12 pounds of the average for her age. At this time treatment was stopped entirely during a period of 10 months, after which the patient grew distinctly worse. The pudgy appearance of her subcutaneous tissues about the face returned, she became lazy and developed an enormous appetite and gained almost 14 pounds in weight.

The treatment was again resumed, giving thyroid only in small doses for a period of three months. She showed the same improvement in her general appearance and skin as before. She became more active. Her conduct and scholarship were good. Her weight was 140 pounds, 14 pounds above the average and her height 66 inches, the average for her age. The thyroid was still somewhat full: Her menses were quite regular. This appears, therefore, to be another mild case of hypothyroidism which was greatly helped by appropriate treatment.

Case V. (Not-feeble-minded.)

First seen in the out-patient clinic September 29, 1921. Female age, 12, mental age, 11 8/12. Intelligence quotient 97. Height, 60 inches (3 inches over the average for her age). Weight, 116 pounds (35 pounds over the average.) The torso leg ratio is 17:3 1/2 inches, normal 17:34 inches. Circumference of head 21.8 inches, the average being 20.9 inches. The face is broad, oval, and the features are coarse. She has a rather high, narrow palate. Her teeth are widely spaced. Blood pressure 110/70. The hands are broad. The skin is moist and abundant comedones on face and chest. Extremities are slightly cyanotic. The sella on X-ray examination is within normal limits. Neurologically. Knee jerks and pupillary reflexes are normal. Wassermann is negative. She began school at 7, was regularly promoted and is now doing 6th grade work. Her practical knowledge is good. Socially, patient plays games and reads and is accepted as an equal by girls of her own age. Her moral reactions are good.

This case was seen by Dr. Timme in consultation and on account of the skin, facies, cold and cyanotic hands and absence of axillary hair was diagnosed as hypothyroidism. She was put on thyroid, 1/2 grain three times daily, augmented with small doses of sodium iodide. At first she was restless and nervous, screamed at night and was not lively during the day. Six months later she improved greatly, doing very well in her school work and resting better at night. She read a great deal. Two years later she began to show a marked craving for sugars and starches and developed an enormous appetite. All medication was discontinued for one week and a basal metabolism test was done. The same was found to be normal. On account of her general improvement, however, under the drug, thyroid was continued in 5th grain doses three times daily. All medication was stopped in October, 1923.

In January, 1924, two years after treatment was begun, she is 62 1/2 inches in height, a gain of about 2 inches and within 1 inch now of the normal. Her weight is 155 pounds, 18 of which she has gained since the medication was discontinued in October, when she weighed 137 pounds. The average is about 100 pounds for her present age.

This is one of the typical cases to which we wish to call attention as a mild form of endocrine disorder. The question here arises as to the possibility of pituitary involvement. Her large skeleton and recent increase of appetite, especially for sweets, might be brought forth in argument for pituitary dysfunction. There certainly was considerable improvement in her general physical condition and also in her mental reactions up to October 24, when medication was discontinued. This case is still under observation.

Case VI. (See Fig. VI.)

First came under observation October 2, 1919. Male age, 6 7/12, mental age, 3 4/12. Height, 50 inches (6 inches above the average.) Weight, 70 pounds (average for his age 45 pounds). Circumference of head 22 inches, average for his age 21.3 inches. His head was also 1 cm. longer than the average. He had a dolichocephalic head with a question of hydrocephalous. The mouth was small and the palate had a high arch. The teeth were very irregular and the voice was high pitched like an infant. The hands were small and the X-ray of the head showed a small sella turcica. The testes were undesended. The gait was awkward and there were automatic and rhythmic movements. The Wassermann was negative. He had been in kindergarten and was in the first grade, but his school work amounted to nothing. He was of a jumpy, easily excitable nature and readily upset. Morally he knew right from wrong and his personal habits were clean. There was a history of fainting spells during the eruptive period of his teeth which appeared unusually early.

The question of hypopituitarism is suggested here in the skeletal overgrowth and the marked adiposity, the small sella and the small and undescended testicles.

Treatment. At this time patient was seen by Dr. Timme in consultation who agreed that he should be given thyroid in small doses and pituitary gland. This was done for a period of 5 months. During this time there was a slight improvement in his motor control and he was more alert and showed a slight change in his mental condition, the psychometric level having risen 1 year. He was, however, very distractible and erratic.

One and a half years later, having received no treatment in the meantime, his height had reached 54 1/2 inches (6 inches over the average), and his weight had increased to 94 pounds, which was 42 pounds above the average.

He was then placed in a special school where he remained for one year, receiving no medical treatment and where he showed practically no progress, his mental age at the end of that time being 4 8/12.

This case was one of the least favorable in this whole series but this patient showed a better progress both mentally and physically during the short period of medication than he did without medical treatment and special teaching in the period following.

Case VII. (See Fig. VII).

Came under observation May 3, 1923. Female age, 14 6/12. Mental age, 9. Height, 52.2 inches (9 inches below the average for her age.) Weight, 58 pounds (42 pounds below the average for her age.) Circumference of head 20.5 inches (average 21.1 inches). There was slight difficulty in the pronunciation of certain of the linguals. Skin was rather dry and wrinkled. There was abundant hair on her arms, hands, back and upper lip. Pubic hair showed a feminine distribution. There was distinct hypotonia of the muscles. There had been no menstruation. Thyroid was palpable. Knee jerks and pupillary reflexes normal. At school she was in the 6th grade, but on her school examination she failed to pass all the 6th Grade tests. Her school progress was said to be poor. She did work at home about the house, but showed little interest in the girl's club, although she was said to be sociable and obedient, suggestible and rather shy. Her morals were good. Her growth had been stationary. Her parents noted there had been no change in her height as marked on the wall during the past year.

This patient, I. Q. 62, much under size and much under weight, though fairly well proportioned (her span was 3 inches below normal), and with hypotonia of muscles and absence of menses suggests a dyspituitarism of the Levi-Lorain type. The abundant growth of hair on her arms and lips add adrenal touches to the picture.

Treatment. In consequence, she was given pituitary gland and ovarian extract reinforced later by small doses of thyroid and this was continued over a period of 9 months. She began to grow again and showed an increase of 2.6 inches in height. She increased 5 pounds in weight and though she was in a better state of general health, her menses had not yet begun at the age of almost 15 years, this patient moreover being of a southern European race. There was practically no change in her mental rating. This case then, although she showed prompt response to treatment physically in her growth which had previously remained stationary, has not shown much improvement in any other way. True, although her mental age is only 9, she does not appear feeble-minded. Whether a continuation of the treatment will result in a more marked improvement remains to be seen.

Case VIII. (Inferior Normal.)

Came under observation April 21, 1921. Female age, 15 6/12. Mental age, 13 1/12. Height, 66 inches (5 inches over the average for her age). Weight, 123 pounds (15 pounds over the average for her age). Circumference of head 21.7 inches, within normal limits. She has a myxedematous facila appearance. Hands and feet are large. Hands slightly cyanotic. Hair distribution is abundant, especially over forearms and legs and there is distinct nasal brow. Pubic hair is of female distribution. X-ray of the sella turcica shows a rather small cavity but within normal limits. Menses began at the age of 15, and were irregular.

Neurological examination showed knee jerks and pupillary reflexes to be normal. The Wassermann is negative. In school work patient began at 6 years and made good progress up to the 7th grade; from then on had more difficulty. She is at present in the second year of High School though in school tests she rates 7th, 8th and 9th grades. Her practical knowledge is good. Economically she has earned a little money working about the house. She is not of a social nature and does not get along well with other girls. They think she is queer. She is quarrelsome and has a violent temper. She is a very sleepy type, said to be able to sleep all day if she were allowed to do so. Morally she knows right from wrong. Family history is distinctly bad. The father was alcoholic and deserted the family. The mother is said to be a large, coarse woman weighing 200 pounds, cruel, and has been in court on account of neglect of her children. One brother is in a feeble-minded school and a half brother is in a reform school on account of stealing. Her own personal history shows chorea at the age of 14 and influenza at 13. There has been nocturnal enuresis.

The pertinent feature of this case is her fairly good progress until she reached the 7th grade in school. It appears about this time, which was in 1918, she had influenza during the epidemic and has since then shown a marked tendency to drowsiness. A year later she had chorea. It would seem that there was in this case perhaps an inflammatory reaction about the base of the brain and encephalitis which may have involved the pituitary gland. Another factor to complicate this case is the bad heredity—one brother at a feeble-minded school, a half brother in a reform school and a mother of extremely bad moral character.

In taking into consideration the myxedematous condition of the subcutaneous tissues in her face, one is inclined to see here a thryoid complication. Her large hands and feet, and skeletal overgrowth, point to pituitary dysfunction. Seen in consultation with Dr. Timme in 1921, this case was regarded as of a hypopituitary nature.

Treatment. On account of her facial appearance noted above, this patient was first put on thyroid to which was added some corpus luteum on account of irregular menstruation at that time. Later on, pituitary whole gland was added and she was kept under treatment in all during a period of 9 months.

As a result of treatment, we notice the following; physically, about 1 inch increase in height, 25 pound increase in weight and marked improvement in the condition of her skin (loss of myxedematous look). Menses were still irregular. Bed wetting was still noted and she was always tired. Her conduct had improved and she did good work at school and got along better with her associates.

All medication was then discontinued during a period of one year. During that time she grew almost another inch, increased 10 pounds in weight and was still sleepy. Her menses had become regular and she had ceased to wet the bed, a symptom which had not improved during the period that she was under treatment. Unfortunately a mental test was not made at the end of her treatment period. One year later a psychometric test struck her mental age at 16 9/12, an improvement of 3 8/12 years and her I. Q. had risen from 85 to 105!

To summarize, we have here a patient who showed distinct endocrine signs, skeletal overgrowth, marked over weight, large hands and feet and a myxedematous appearance, irregular menstruation and nocturnal enuresis. We have a history of a distinct infection 2 1/2 years before of the nature of influenza followed by chorea and lethargic symptoms.

Under treatment we notice a distinct improvement in her mental state, in her ability to learn, which later had become distinctly obtunded when she reached the 7th grade, and improvement in her myxedematous facial condition, all of which appeared to be due to thyroid improvement. On the other hand, physically she still had a muscle weakness, there was a tendency to increase in weight and she was still sleepy, all of which point to pituitary signs. It would seem, therefore, that in this case the pituitary medication was not effectual, but the thyroid seemed to cause a marked improvement. Physically she had not improved, mentally she had raised her I. Q. from 85 to 105 in a period of less than two years.

Case IX.

First seen May 24, 1923. Male, 17 4/12 years, mental age 12 11/12; height, 66 inches (average for his age); weight, 189 3/4 pounds (average for his age and height 138 pounds); circumference of head 22 1/2 inches (average for his age 21.8 inches). He has a very high and narrow, arched palate. His lateral incisor teeth are extremely small and irregular. He has a mitral regurgitation, a blood pressure of 160/60 and pulsations are visible in the vessels of his neck; his pulse rate is 96. Hairy development abundant, including nasal brow and coarse, heavy beard. His breasts are large, feminine type; genitalia well developed. Knee jerks and pupillary reflexes normal. The Wassermann is negative. He was in the 7th grade. Conduct said to be good. In school tests he graded from the 4th to the 7th grades. Economically he has earned $10 a week doing painting, but is indolent and will not work. He associates with younger boys; dislikes boys' society because he is teased and called fat. He is obedient with others, but not with his mother. There has been excessive masturbation. He knows right from wrong. Nothing is known of his family history and of his personal history he is said to have walked at the age of 13 months and to have been very fat at the age of 15 years. This patient was brought to the clinic primarily for conduct disorder. He was lazy, disobedient, and his mother was unable to control him.

Treatment. On account of his excessive weight and the feminine contour of his body, he was regarded as hypopituitary and put upon pituitary (whole gland) only. He was admitted to the institution and was allowed to work as helper with the steam fitter, being kept under constant supervision. He showed rapid improvement in that he was industrious, more willing to help and interested in his work and after six months' treatment had decreased in weight 36 pounds which brought him within the normal limits for his height. The adiposity and feminine contour disappeared.

Case X. (Not feeble-minded.)

First seen June 30, 1921. Female age, 13 6/12 years, mental age, 11 11/12. I. Q. 88.

The clinic was consulted because the patient had stopped growing and was subject to frequent and profuse menstruation. Her height was 54 1/2 inches (4.2 inches below the average for her age). Her weight was 99 1/2 pounds, which was 26 pounds over the average for her weight. There was marked discrepancy in her torso leg ratio which was 39:66, and should have been 39:78. Her face is broad. Nose has a flat bridge with rather wide nostrils, high, narrow, arched palate, very small lateral incisors which are crowded out of line. Her mouth is small. Her eyesight is myopic. Skin is fine in texture. Patient has peaches and cream complexion. Eyebrows are scanty. Has a downy growth of hair on her forearms, neck and legs. Mammary glands are large and over-developed for her age. Thyroid is prominent. Hands are moist. Hands and feet are small. Arms and legs are short (note discrepancy in torso leg ratio). The X-ray shows that the sella is small and that the epiphyses are joined. Menstruation began at 12 years, has occurred every two weeks and is profuse. Her muscle development is poor; she is not strong. Neurological examination negative. Wassermann is negative. Her school work is good. She began at the age of 6 years and is now at the age of 13 1/2 years, in the 8th grade; progress good. She also does well with her music. Economically she understands housework but is not strong enough to do it. She becomes confused and nervous when she is tired and does not sleep well, has a fear of being alone. Her father died of pernicious anemia and the rest of the family history is negative. Her parents were both very intelligent and bright people. Patient had cholera infantum first year; poliomyelitis at 1 year and 8 months; enteritis at 3 1/2 years. There was always a stinging sensation about the vagina and at the outlet of the urethra. She was a bed wetter until 3 or 4 years old. A gynecological examination revealed a slightly enlarged uterus and the gynecologist's diagnosis was endometritis, with recommendation of medical treatment and if ineffectual, curettage.

Treatment. In view of the array of endocrine symptoms which were furthermore complicated by the history of an old poliomyelitis, this patient was regarded as a polyglandular type. She was therefore put upon thyroid and pituitary gland to which was later added luetin in 5 grain doses.

Patient continued to tire easily and the menstrual flow grew more abundant. Ten months later a curettage revealed a hyperplastic endometritis.

TABLE I

Case	Sex	Age	Mental Age	I. Q.	Inches over (+) or under (—) Average Height	Pounds over (+) or under (—) Average Weight	Other data	School Grade	Diagnoses	Treatment: Time Mos.	Treatment: Drug	Physical Changes: Increase in Height	Physical Changes: Increase or loss in Weight	Physical Changes: Imp. + No imp. —	Mental Changes: Mental Age	Mental Changes: School Grade	Mental Changes: Imp. + No imp. —	Later developments
I	M	14	9 3/12	66	−11	−39	Infantilism	I	Hypopituitary (Levi-Lorain)	36	Thyroid Pituitary	+6.5	+14	+	10 5/12	IV	+	Still under treatment
II	F	10	6 6/12	65	−2.5	Average	Short extremities Pot belly No menses	II	Cretinoid	21	Thyroid	+3	+5	+	4 10/12	Deaf School	−	Still under treatment
III	F	8 4/12	6 8/12	80	−4.5	−6	Myxoedema of face Short hands and feet	III	Cretin	30	Thyroid	+6	+12	+		IV	+	Still under treatment
IV	F	13 11/12	12 1/12	80	+3.7	+19	Thyroid large Sella large Muscles weak	VIII	Hypothyroid Not F. M.	11	Thyroid	Av.	+14	+	13 10/12	X	+	
V	F	12	11 8/12	97	+3	+35	Large bones Coarse features	VI	Glandular Not F. M.	25	Thyroid	+1	+37	+			+	
VI	M	6 7/12	3 4/12	50	+6	+25	Small hands Small sella Baby voice Undesc. testes	K. G.	Glandular Hydrocephalus Dyspituitarism	5	Thyroid Pituitary	1 yr. after +3.5	1 yr. after +10	+	1 yr. after 4 4/12	I No progress	−	Erratic Learned nothing in 3 yrs.
VII	F	14 6/12	10	62	−9	−52	No menses Arrested growth	VI	Hypopituitary (Levi-Lorain)	9	Thyroid Pituitary Ovarian	+2.6	+5.5	+	9		−	Still under treatment
VIII	F	15 6/12	13 1/12	83	+4.2	+15	Large, fat hands Small sella Sleepiness	H. S. Tests (VII–VIII)	Hypopituitary Maladjusted Inf. normal	9	Thyroid Lutein Pituitary (whole)	+1	+2.5	−	2 yrs later 16 9/12 I. Q. 105		+	2 years later I. Q. 105
IX	M	17 4/12	12 11/12	80	Average	+51	Large, fem. breasts Hypertrichosis Laziness	VIII Tests (IV–V–VI)	Glandular (Hypopituitarism)	7	Pituitary (whole)	Av.	−35	+			+	
X	F	13 6/12	11 11/12	88	−4	+6	Thyroid large Sella small "Peaches and cream" complexion Menorrhagia Poor muscles	VIII Music good	Endometrial Hyperplasia Glandular	10	Thyroid Pituitary Lutein	2 years after +1	2 years after +9	−			−	Curettage: physical improvement Regular menses +1.2 inches

Following this there was marked improvement in her menstrual regularity flow ceasing entirely except for a very slight trace for one or two days a month during a period of six months. She grew stronger, increased 1 inch in height, and graduated from the 8th grade.

During the period of treatment which extended over 10 months, the only improvement noted was that she was much less nervous, able to concentrate better and slept better. Following the curettage, all medication was discontinued and in January, 1923, a year after the treatment had been discontinued and 8 months after the operation, her height was 55.7 inches, a gain of 1 inch. Her weight increased 9 pounds which is within the average limits for her age but which is in excess for her height.

We feel that the endocrine symptoms which were marked and various, were overshadowed by the acute surgical condition and that under the circumstances little progress could be expected from the endocrine treatment.

She has entirely recovered her equilibrium from her menstrual disturbance. We would recommend another intensive course in polyglandular therapy. The remarkable feature of this case is the fact that in spite of the continued loss of blood extending over such a long period of time, she continued to hold her weight and later on, even gained 9 pounds before she was curetted.

Summary. We have studied a series of 10 cases selected from the outpatient clinic of a large school for the feeble-minded. They have been chosen because of (a) various discrepancies in development, and (b) various physical and functional characteristics that brand them as endocrine. Some of these have been sufficiently outspoken and typical to classify them into well known categories such as Cases I and VII which are of the Levi-Lorain type of hypopituitarism and Cases II and III which certainly belong to the cretinoid hypothyroids.

In comparing the cases as sketched in on the table (Fig 8), we find that 8 of the 10 cases have shown physical improvement in one way or another. In 5 of 10 mental improvement was shown either by a rise in the intelligence quotient or by improvement in industry or in general behavior. The question here arises as to how much improvement is due to treatment and how much would have occurred without therapeutic interference. We assume that a certain amount of development would occur normally with advancing age at these periods (ages varying from 6 7/12 to 17 4/12 years). It does not, however, appear accurate to judge that these cases should if let alone make the normal gains at their respective ages, since they are prima facie under normal physically or mentally or both. We have, nevertheless, in Case VIII the remarkable increase of 3 years and 8 months in mental age during a period of 1 year and 10 months, the I. Q. rising from 83 to 105. In Case VI the patient has lost 35 pounds of excess weight. In Case IV the patient improved markedly when put on treatment, slumped when it was discontinued and again improved markedly with the resumption of treatment.

As to length of treatment period, Cases I, II, III, IV and V were treated longest (from 11 months to 36 months). With the exception of Case VI, which had a distinct handicap in auditory sense deprivation, all these cases showed distinct mental improvement. It would seem therefore that the physical attributes are more easily affected by glandular therapy and that more time is required for mental improvement.

As to drugs, thryoid gland and pituitary whole gland substance were used in most of these cases frequently in combination. Sodium iodide was frequently added as adjuvant to the thyroid. When given with the pituitary, thyroid was given in small, usually 1/10 grain doses.

Conclusions: This is a preliminary report of a small number of cases and no general conclusions can be deduced. It would seem, however, from this much study and observation that:

(a) Glandular therapy especially thyroid and pituitary substance, do have a distinct effect upon the mental and physical condition in certain types of feeble-mindedness and borderline retardations with physical abnormality.

(b) The response to treatment is noticed first in the physical improvement and only after a longer period in mental improvement.

INTERPRETATION OF THE SOCIAL WORK, DIVISION OF MENTAL HYGIENE

By Miss Bertha C. Reynolds, Social Worker

DEPARTMENT OF MENTAL DISEASES

The Social Work in the Habit Clinics is a part of the organization so closely interlocked with the work of psychiatrist and psychologist that it can hardly be described alone at all. Speaking of it as the "relating" service, caring for the paths of communication between the clinic and the community of which the clinic is a part, certain questions arise. Answering those questions by means of illustrations taken from actual cases may make clear what the Social Service does and where it fits into the clinic unit and the community life.

I. Is it the function of the clinic social worker to get "background" for the physician? This is a part, but not the whole story, for if it were, any good news writer would be as useful as a trained social worker in furnishing a description of the appearance of the home and the people in it and the family habits of living. *Interpretation* must be added to description to give full service, otherwise the physician, with no first hand knowledge of the home conditions and no opportunity to follow clues and check hypotheses, must make his own social diagnoses. The social worker, trained to observe social conditions, weigh evidence and to seek the roots of what appears is the logical part of the clinic unit to furnish this service.

Illustration: A little boy of five was referred to the clinic because he was quite uncontrolled at home. His father had suffered from periodic attacks of mental disease and the father's physician feared that the boy was not being given the training to prevent his developing any latent tendency in the same direction. The background of the home was, in brief, that the father was a Polish musician away from home much of the time, the mother an Italian woman, formerly a factory worker, now, at age 45, very nervous and suffering from a uterine difficulty causing considerable discomfort but for which an operation was not advised. The home was a cheerless tenement below the standard to which the family had been accustomed because the father's orgies of spending during his mental attacks had repeatedly used up their savings. The mother, seen in the home, presented a picture of a frantic woman vainly trying to check the play activities of two small boys, complaining of her husband and expressing her fears that the children would be like him and saying that the days were long for her because of knowing no one and having not enough to do at home. From such a description, the physician might have gone on to give the mother instructions for training the children and perhaps mental hygiene advice for herself. The social analysis, however, brought out some deeper interpretations, only to be sought for and recorded by a person sensitized to what certain things mean. There was a deep sense of incompatibility between this woman and her husband, partly racial, partly because of difference in social standing, each feeling superior to the other, partly due on the wife's side to the suffering caused by her husband's mental attacks. She remained loyal to her marriage in spite of her regret of it, but interpreted every childish prank in the boys as evidence of their inherent likeness to their father. She was quite surprised that others saw nothing abnormal about them. She had given up her friends because of false shame over her marriage, and brooding much alone, in a tenement too small to use up her great nervous energy, she was fast becoming a mental problem herself. The boys were reacting normally considering the nagging and lack of control in their environment. The social diagnosis was that of a mother unable to adjust to her environment and too nervous and unintelligent to respond to training.

Recommendations:—To arrange for the children to be away from her as much of each day as possible so that they could play freely, and, for the mother, light occupation outside the home to relieve her financial worries and give social contacts with others which might improve her perspective enough so that she might see her husband's really fine points. The plan worked out by physician and social worker with the approval of both fathe and mother, included a part time job for mother and day nursery care with habit training there for the children.

II. Is it the work of the social worker to help in carrying out treatment by going over the physician's instructions with mothers in the homes? Yes and again, still more than that. The physician tells the mother what ought to be done; the social worker helps her work out the problem of *how* to do it This may involve considerable social adjustment.

Illustration: The physician had prescribed isolation for an hour or two for a boy whose mischievous activity had made him almost intolerable to parents and neighbors. When the social worker called, after an interval the mother said that she and her husband had both decided it was impossible to carry out the instructions. The only room they could use for this mental quarantine was heated by a wood fire which required attention. The boy might destroy the furniture or even set himself afire without her knowing it if she was not to go near him. The visitor then explained the spirit of the instructions and the possibility that the mother might attend to the fire and keep an eye on what was going on without making it apparent and still preserve the boy's feeling that his restoration to the family circle depended upon his gaining self control.

In another case, where a mother said she could not give her two children separate beds as advised because she had only double beds and no money to spare for others, a social problem remained to be worked out.

Still another mother, a keen eager student in her native country, was beginning to be despised by her "smarty" little American daughter, although she was really a woman of remarkable personality. She had given up all her own interests to care for a nervous child who was not being helped by her over-solicitude. To put this mother in touch with a public library furnishing books in her own language seemed to be the road not only to increased respect from her children, but for the delicate child, our patient, a freer atmosphere in which mental hygiene training might be more effective.

III. If the Habit Clinic social worker makes the social adjustments for her patients is she not making of herself still another social agency in a community where already one family may have a dozen visitors, ranging from the baby nurse to a follow up worker from the hospital where grandpa was sick with heart disease? The answer is that the clinic worker does nothing that another agency already interested can do or that an agency of another type can do better. Her service as consultant or as a resource to be used is offered to all agencies in the community and she in turn calls upon them for service. If a number of agencies are visiting the family already, the Habit Clinic works through one of them if possible.

Illustration: A family of 5 children, despaired of by numerous societies was in debt, needing milk for the children, yet buying a piano, the mother ailing, the children frightfully uncontrolled and to such a degree in the habit of refusing the foods they needed for building up as to be hopeless in the nutrition clinic. The social diagnosis of all the workers interested was that mother was too spineless and complaining to do anything with. They thought she might do better if she could rest and get built up, but that had been tried in vain when father could not manage the children and a new pregnancy added its complications. The Habit Clinic was, however, called into conference and asked to take part in an educational experiment, the Family Welfare Society to furnish milk for a given time on condition that the mother would take lessons in buying and planning from the nutrition worker and from the Habit Clinic in training the children to eat properly. The agencies kept in close touch with each other but no one else visited the family while the nutrition worker was going there regularly. The mental hygiene work was done by the physician at clinic and by the social worker in straightening out the oldest boy's conduct difficulties at school and his recreation problem. Result: A mother with renewed courage to attack her problems, with improved skill in buying which relieved the financial situation somewhat, and with some better success in training the children; the children's food capriciousness overcome and school relations and recreation improved for the older boy—all this the result, not of competition but coöperation, with no overlapping and no multiplication of agencies.

The social work of the Habit Clinics does not solely relate itself to other forms of social work in the community. It aims to be a *part* of the community. Even though the clinic is a travelling one, visiting a new community each day, it is a resource to which people should feel free to go with their problems of child training as they go to the health station for infant diets. It is a service not for the poor alone, for in the intricate human problems surrounding a little child's life who does not feel the need of help from someone? The wisest of mothers meeting a difficulty alone might well be glad to find a place where her problem was not new, and where, if experiment was necessary, it could at least be made in the light of the best scientific knowledge available.

Just as far as it is possible, the social workers in the Habit Clinic aim to know their neighborhoods sympathetically and in perspective, studying the resources which they may have in themselves for recreation and education and working for a fuller use of them. The workers bring to their fellow citizens not a spirit of criticism and a boast of superior knowledge, but a respect for the other's point of view and a faith that it is possible to understand the cause of conduct difficulties, and by patient effort to remedy, or better still to prevent much that is now accepted as inevitable suffering.

SUGGESTIONS FOR A PROPER RELATIONSHIP WITH THE PUBLIC

A BULLETIN ISSUED TO THE PHYSICIANS OF THE WORCESTER STATE HOSPITAL

By William A. Bryan, M.D., Superintendent.

A great and successful system of hotels has been built up in this country by means of unusual service to guests. This principle can be applied to the management of hospitals and the rewards while not financial, will be fully as great in securing public confidence in the hospital. Assistant physicians are brought into closer contact with the public than anyone else in the hospital and it is upon their shoulders that the responsibility of creating a good impression rests.

This bulletin is for the purpose of calling to your attention certain principles and policies that should always be kept in mind in meeting the visitors who come to this hospital. First—The visitor is always right. This fact is the foundation upon which the entire structure rests. When a visitor complains that certain things are wrong, do not take it as a personal insult. It may or may not be intended as such, but in either case you should be too big mentally to take affront at a real or fancied insult from one who is in trouble. Keep in mind that everyone you talk to has a great trouble and needs sympathy and understanding. If you, a medical man, cannot give such sympathy in an intelligent way, you are not a proper person to deal with individuals who are in trouble. If the complaint is an unjust one, keep in mind that the individual's viewpoint is colored by the commonly accepted idea of the laity regarding our hospital. We have not yet arrived at the point where the public has confidence in us and it is only by the careful attention to these details that we ever will gain this confidence.

I have been in this work too long not to have learned that anything may happen. If a complaint is made, admit that such a thing may have happened, promise a thorough investigation and then make this investigation. But this is not sufficient. A report must be made to the individual making the complaint, either verbally or by letter. Do not hesitate to admit that we are at fault, but be sure to correct the condition that it may not happen again. Invite the coöperation of the visitor. This is real service. If complaint is made regarding things that cannot be corrected, explain fully and carefully the reason why it cannot be corrected. Most people are reasonable if they are given an explanation for the things they cannot do. Many mothers look upon our rule that no food shall be kept in a patient's room as petty tyranny, but an explanation as to the reason for such a rule, i. e., that the accumulation of food in the rooms increases rats, mice, cockroaches, bedbugs, etc., finds her agreeing with you.

Try in all cases where complaints are made to put yourself in the relative's place. Suppose that your son, daughter, father, brother or sister, was mentally ill and a patient here. Could you accept the situation philosophically? I doubt it. You have many patients to think of, but to this mother and father I speak of, there is only one patient in the hospital. Don't be brutal or tactless, you may think a visitor is below normal mentally, but don't tell him so. You have not been asked to judge of his mental qualifications and you may get yourself heartily disliked or get into even more serious trouble. Do not smile in a superior manner at a visitor's explanation of her son's illness. Nine times out of ten we have no better explanation to offer. Perhaps it was not caused by sunstroke, or over-study, but unless you can tell definitely what caused it, do not argue about it. You need not necessarily agree, but disagree tactfully and try to offer some explanation.

I know you are greatly bored at times by a mother's long account of what a fine boy her son was or a husband's circumstantial account of what a good woman his wife was, but remember that they are going through a tragedy of life, and need a sympathetic listener. Suppose it does waste your time and you can be better employed in doing something for the son or wife. Remember you are helping to sell the idea to the public that we are here to serve it and you may be bringing some comfort to a tortured soul.

If you cannot terminate an interview with a visitor without hurting him, you are not properly equipped to handle the public. It is true that the more people get, the more they want, but you must learn to handle them carefully and diplomatically and accede to small requests, within certain limits. Of course, we cannot let visitors manage the hospital, but you lose nothing in dignity by granting an unimportant request and you may make a friend for life. Do not bluntly tell any relative that the patient cannot get well. Be optimistic, you need not lie about it, but you need not be a pessimist and always look on the dark side of things. You have no more right to tell a visitor that a patient will not get well any more than you have the right to promise definitely that he will get well. But be human.

In discussing the illness of a patient, do not use medical terms. General paresis and dementia praecox mean nothing to a wife or mother. There is no synonym that I know of for dementia praecox, but you can attempt an explanation of what it is. This is educating the public—and God knows we all need education along mental lines, if for no other reason than to know how to get along with the other fellow.

Do not hesitate to use the resources of the hospital to assist a visitor. If the visitor needs help give it to him as far as it is within your power. I have expended considerable money in my career giving railroad fares to visitors. Of course, they should know better than to come without sufficient money, but they didn't.

Never let visitors go away dissatisfied or feeling that they have not received proper attention. If you cannot correct matters to their liking, immediately refer the matter to the assistant superintendent or superintendent. It is no reflection on your ability that the head of the hospital can handle situations that you cannot. His position gives him an advantage that may clear up the entire situation.

Do not hesitate to spend the hospital money for telephones, telegrams or letters to patients' relatives regarding their condition. A letter must be written immediately to a relative in case of any injury to a patient. Nothing is more humiliating than to have a visitor tell you about these things. We must be frank and open in dealing with visitors about hospital matters. We have nothing to conceal, we do make mistakes and we are not always 100 per cent efficient, but we can take the curse off by telling unpleasant facts first and without being questioned, by freely admitting our mistakes when they first occur and trying to correct them and by inviting the coöperation of visitors in increasing the efficiency of our hospital. The time to sort out bad eggs is when they are put into the basket. The time to correct mistakes is when they first occur.

Invite visitors to come to you with their complaints. If they do not get a receptive ear from you, they will complain to someone else who is less competent to deal with the situation. It is much better to have visitors willing and anxious to tell us what is wrong, than to have them peddle the information around the community without our knowledge and without giving us any chance to explain.

It is impossible to make rules which will fit every situation that may arise. The points I have mentioned are general ones and each case is a law unto itself, but if you will keep in mind that tact is an essential quality of every human relation, I believe that you will be of greater value to the hospital and will gain more rapid advancement in your own career. It is not sufficient that you be well read and skillful in your profession, but in addition you must have a personality that will enable you to let other people know that you are skillful and know your business. Confidence in your judgment will come if you are pleasant, kindly, sympathetic and will always put yourself in the other fellow's place.

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Volume IX

BULLETIN

OF THE

MASSACHUSETTS DEPARTMENT OF MENTAL DISEASES

EDITED UNDER THE PROVISIONS OF SEC. 11, CHAPTER 123
GENERAL LAWS, BY

GEORGE M. KLINE, M.D.
DOUGLAS A. THOM, M.D.
GEORGE L. WALLACE, M.D.

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THE WORK OF THE DIVISION OF FEEBLE-MINDED.

By H. M. Watkins, M.D., Director.

Massachusetts in 1848 established the first public institution in America for the training and care of the feeble-minded. This represented a pioneer attempt by a State in appropriating public money for the welfare of its feeble-minded. From this early beginning there has gradually evolved a program which embraces the following factors:

1. Identification.
2. Registration.
3. Education.
4. Supervision.
5. Segregation.

It was early seen that in order to properly study and plan a program for the care and training of the feeble-minded, some means of identification was needed for those cases living in the community outside an institution. The public school system offered the widest field for this work, and accordingly enabling legislation was enacted in 1919, establishing State-wide clinics for the examination of school children 3 years or more retarded. The fundamental purposes of this law are, first, to discover those children of school age who are so retarded in mental development that they can derive but little benefit from the regular academic work of the schools; and secondly, to provide a practical type of training and supervision which will enable them so far as possible to become safe and self-supporting members of society.

Accordingly the Commissioner of the Department of Education and the Commissioner of the Department of Mental Diseases drew up regulations and instructions for determining the number of children thus retarded. The examination of these children embraces the following factors:

(Physical Examination.
Family History.
Personal and Developmental History
School Progress.
Examination in School Work.
Practical Knowledge and General Information.
Social History and Reactions.
Economic Efficiency.
Moral Reactions.
Mental Examination or Psychological Test.)

these factors being the so-called 10 Point Scale or standardized fields on inquiry as evolved and introduced by the late Dr. Walter E. Fernald, Superintendent of the Massachusetts School for the Feeble-minded at Waverley.

From the above it can readily be seen that the feeblemindedness is not an entity to be dealt with alone psychologically, but it is a complex problem involving ten factors, only one of which is the psychological examination. It is therefore a medical problem and the diagnosis is made by a psychiatrist who evaluates those ten points and gives advice accordingly. This service is given gratis by the Department of Mental Diseases. It is not compulsory but is a service offered to every school district within the State.

In compliance with the Acts of 1919, Chapter 277, the Department of Mental

Diseases divided the State into fourteen clinic districts, each served by a travelling clinic from a State hospital or School for the feeble-minded. Each clinic consists of a psychiatrist who is director; a psychologist; a social worker; a teacher; and, usually, a school nurse. These clinics conduct the examination of school children 3 years or more retarded and examine all cases referred by the school authorities, making recommendations both to the school authorities and parents, and to the Department of Mental Diseases. If as many as ten children are found to be 3 years or more retarded, the local school authorities shall establish a special class for them.

Each year these children are re-tested to note their progress and to see if other recommendations are needed. This law has now been in operation for 4 years and approximately 11,000 children have been examined. 121 towns and cities have requested such a survey and the work has been completed in 104 towns and cities.

By the establishment of these clinics the State has drafted into its service its own experts for the examination and benefit of every backward child within its borders — a service made possible for every township from the Berkshires to the Cape. The information obtained is given to the school authorities and the parents with the idea that a local feeling of responsibility may be instilled, in addition to suggesting to the teacher the capabilities of the child and an intimation of how his training should proceed.

While this work is in its infancy, it is already showing results, for the public is made aware that the feeble-minded child is entitled, according to his ability, to the same opportunities for education as his normal brother and sister enjoy — for they differ, not in kind, but in degree only.

Reports from these clinics are forwarded to the Department, filed and catalogued, and serve as a continuing census of the feeble-minded. Approximately 3,000 names are being added to this list annually. In the course of a few years an accurate census will thus be obtained as our entire feeble-minded population will eventually pass through the public school system.

The education of this group takes place first in the public school, in the form of special classes. Here a definite program is outlined according to the needs of the particular child, emphasis being laid upon manual and industrial training, as the backward child will, later in life, compete, not in scholastic ability, but in those things which he is able to perform with his hands and physical ability. The earlier in life his handicap is recognized and the earlier proper training is started, the better are his chances for adjustment in the community. The more things we can teach the feeble-minded and the more valuable we can make them economically, the more anxious are the parents and community to supervise them.

The older ideas concerning the feeble-minded were built around a small group of institution defectives and never recognized the larger percentage that was and would remain in the community. As one of the greatest writers on this subject has aptly termed it — "the legend of the feeble-minded" — that we had only studied the "protruding point of the iceberg and had never gotten below the water line." We now recognize the fact that about 90% of the feeble-minded can be supervised in the community by the family, friends and interested agencies. A few months ago there were on the waiting list of the schools for defectives in this State 1,500 names. A careful study of this list, together with full investigations, has reduced this number about two-thirds. Adjustments were found to have been made in various ways. As their age increased, their economic situation improved. Many found employment in occupations on their level — the majority in the class of "hewers of wood and drawers of water." Outside agencies became interested in others. The school system tolerated many until they had passed the age limit and with further supervision became independent economic factors in the community. Several were controlled through the out-patient departments of the State Schools and Hospitals. Practically none that were on the waiting list for 5 years require further aid from this department, tending to indicate that within 5 years they had made their own adjustments.

In 1921 a new law was passed, giving the Department of Mental Diseases authority to supervise feeble-minded persons outside the institutions, whereby cases may be committed directly to the Department, but only after careful study of the type of individual and after obtaining the consent of the Department. This phase of the work is proceeding cautiously as must needs be. We are attempting to set up standards of acceptance. Already the defective delinquent must be excluded, as also the low grade child, except in his own home. It would appear that the most suitable type for community supervision is the child of the high imbecile or moron group, with good behavior tendencies, no asocial traits, one amenable to discipline and who has, early in life, been taught habits of industry and thrift. Such children placed in suitable homes and suitable environment constitute the most acceptable type.

Our studies are showing less hereditary defects than were formerly supposed to exist. Fewer and fewer of the Kallikaks and Hill folk are being discovered; more and more of the adjustable, pleasant, easy to please, industrious type of feeble-minded.

It is conservatively estimated that there are 60,000 feeble-minded in the State. From the above it can readily be seen that the defective constitutes numerically our greatest social problem — far greater than the insane—yet it is neither desirable from the child's standpoint nor financially possible from the State's to institutionalize that number. From information at hand, based on school clinic and out-patient department records, there is something less than 10% who will require institutional care. These should be committed to institutions early for intensive training during the formative years, thereby increasing the possibilities for their ultimate parole.

Again we emphasize the early recognition and early training of the feeble-minded—real reclamation work. For after all, do not life's successes consist, not in the possession of a high intelligence quotient, but in the orderly and proper adjustment of a medium or average intelligence quotient?

CONDUCT

By A. Warren Stearns, M.D.

Psychiatrist, Massachusetts State Prison

Conduct is the reaction of an individual organism to the particular experiences of its life. Therefore, in attempting to analyze past, or predict future conduct, it is necessary to know, not only the qualities of the organism, but the character of the stimuli to which it is reacting. Students of conduct have approached the subject from two nearly opposite points of view.

The first group have dealt largely with the individual, studying the motivating force from within.

Philosophers have tried to explain man's actions in various ways. One group believing in the freedom of the will, enthroned the intellect and conceived of reason as sitting in judgment upon the necessary problems of life and directing conduct by its decisions. If the judgments were correct, then the person was called wise or good; if incorrect, unwise or bad.

Religion entered, and gave men formulæ by which they could act so that reason no longer had to decide difficult problems for itself, but simply had to have knowledge of the "experience of the ages." Those who followed certain prescribed paths then became wise or good, and vice versa. Reason was now in fetters, and a few rules and regulations sufficed. But man gradually broke away from this stultifying idea, and the pendulum swung far. The materialistic thinkers developed almost the reverse idea. Holbach in his *System of Nature*, published in 1770, stated that man was "neither essentially good nor bad, but merely a mechanism played upon by various pleasant or disagreeable sensations, his actions determined by the net result of these."

A later development called hedonism taught that the tendency to seek pleasant stimuli, and to avoid painful stimuli, was a satisfactory and complete explanation of life. Modern science has unravelled many mysteries, but the explanations, though more numerous, are not more simple.

The study of heredity has been of first importance. One of the pillars upon which Darwin built the structure of his theory of evolution was the demonstration of the continuity of emotional reactions throughout animal life, so that today no thoughtful person considers a study of human conduct without familiarizing himself with the sources of instinctive and emotional life in the lower animals. Beyond this, the anthropologists who have so patiently studied the social life of primitive people have shown us very clearly another source of a great deal of the complexity of our social structure. We have also acquired a better understanding of the conduct of children, and through the observation of their simple, or pure, type of reaction have come to understand better the more complex reaction of adults. Finally, as is so well set forth by William James, through the study of insanity, or the behavior of abnormal individuals, we have learned something of the normal. Normal conduct is so complex, subject to so many restrictions, inhibitions, and conditioned reflexes, that it is only in mental disease that we are allowed to peep behind the scenes and view the motives behind human conduct in their nakedness.

Psychologists have diligently analyzed mental activity. They have measured and charted out intelligence, tested its capacities, and incidentally learned its limitations. Knowledge has been gained of the bodily appetites, sex and food hunger, of emotions, feelings, sentiments, prejudices, and the like. These emotional responses are the instinctive and governing part of the organism. When the stimulus is applied with sufficient strength it cannot be resisted. Of course the emotional response is organic. A person in a great fear or rage has a chemical change in his body; that is, he is intoxicated, if we may use a familiar term. However, the emotional response is a reflex, and may be conditioned like any other reflex. The primitive man when attacked raises his hands to fight; in a higher civilization there is an instinctive reach for the sword; the cowboy instinctively reaches for his gun; and I suppose the most highly civilized individual ought to run for a lawyer.

The theory of the association of ideas applies to the emotional response just as to any other instinctive response. The Chinaman loves the woman with the smallest feet; the Zuni brave, the one with the flattest head, and the Hottentot, her with the longest neck. The choicest food offered Champlain by his Indian hosts was nauseating and disgusting to him. Thus, even these two important organic appetities, having to do with sex and nutrition, are capable of being conditioned.

The second group of students of conduct, instead of dwelling on the individual, have studied society as a whole. The statistical method gave great impetus to their work. Buchle, in his *History of Civilization*, illustrates this point of view. He gives to Pinel the credit of first establishing the science of mental disease and substituting psychological laws for mystery and magic. We find writers like Lombroso discussing the impelling influence of the weather or the season upon homicide or suicide. Although there has been a reaction against the all-inclusiveness of this method of reasoning, statistics still hold an important place in the study of conduct.

More modern writers with a socialistic trend talk of *class consciousness*, the *psychology of labor*, the *oppression of capital*, and so on. Aschaffenberg explains crime by the poor organization of society exerting pressure upon the unfortunate, and poverty is thought to be caused by the greed of the rich.

I confess I am bewildered by all these formulations.

No two individuals are exactly alike, and no two have exactly the same experiences. Yet the great mass of people act from similar motives and meet similar problems. When society is first viewed it appears to be a homogeneous mass, but let us think of it for a moment as a sphere, containing at the center a hypothetical ideal of perfect conduct. From that center to the periphery are countless individuals, no two alike, and no two meeting the same experiences, yet near enough to the prevailing standard of conduct to pass by unnoticed. Out of the periphery or surface, however, are those individuals who vary so far from the average or usual, or whose experiences are so unusual, that they attract attention.

Marcus Aurelius suggests that in studying humanity we should have a detached attitude of mind such as we have when viewing the stars. Now I can watch the ants scrambling over their hill, or the bees in their hive, and give an impersonal detached opinion of their conduct, but when I reason over matters of government or religion or sociology, the prejudicial background becomes the more important thing, and reason merely a weapon with which I overcome my adversary. Obviously, the reason is in abeyance to the degree to which the emotion is aroused. Dr. E. E. Southard, recognizing this, frequently remarked that he would like to write a book entitled, *The Prejudices of a Yankee.*

Writers like James Harvey Robinson, who, in his *Mind in the Making*, pleads for disinterested rationalization, but state the difficulty of the problem. For reason, especially when concerned with our personal affairs, or even with human affairs, always has an emotional setting, so that in so far as conduct is concerned it might be said that reason is but the mechanism or instrument with which emotion carries out its ends.

One of the most helpful of the modern theories is that of the gregarious instinct, as developed by William Trotter in his *Herd Instinct in Peace and War*. Certain animals tend to form social groups. The swarm of bees, the flock of geese, the herd of buffalo are examples of this gregarious instinct in the animal world. Man is pre-eminently gregarious, and tends to form a most complex system of herds and groups. All his judgments are prejudicial when his group is involved; that is, he tends to adopt the judgment of the group. His emotional responses, instinctive though they may be, are conditioned to accord with the responses of his group. The Sicilian, when offended, strikes his adversary dead, while the polished gentleman merely says, "I beg your pardon." Furthermore, man takes a great comfort in the midst of the herd, and is uncomfortable among dissimilar or strange herds.

In the child certain qualities are inherent. These qualities have their source in his ancestry, both human and animal. When he is mad, he screams; when he is happy, he coos; when hungry, he cries. He wishes to have his own way, and the pugnacious instinct is stimulated when he is thwarted. His education begins the first time that his parent says "No."

It is impossible to find a satisfactory term for all of the inherent qualities of the child or of the human being. The best I can do is to refer to them as *tendencies*, and I shall use the word tendency to cover all responses of the organism that are inherent or biological.

The child soon begins to learn, and when he first responds by modifying an inherent tendency in response to experience the effect of reason upon his conduct is first manifested. The storing up of this experience is knowledge. When he gets a little older, there is a tendency to play; curiosity demands satisfaction, and so on. Very early he tends to imitate his associates. It has long been noted with what greater speed the second and subsequent children of a family learn to walk and talk. So important is imitation that it is impossible to over-estimate the importance of the future developments of this tendency.

As the child grows older a new tendency develops, the tendency to be like his associates, to seek their approbaton and to avoid their censure, so reward and punishment become the bulwark of training. As he gradually fits into the scheme of things he finds himself a member of various sub-groups with whom he is more intimate. The members of these sub-groups strongly disapprove unusual conduct, and he is particularly sensitive to their approbation. He learns that he must be like the rest of his associates even in expressing originality.

Especially are we sensitive to the approbation or censure (praise or blame) of our own group. One of the most striking illustrations of the effect of this influence is seen in the labor union cry of scab. I have an acquaintance who belonged to a union that was about to strike. He was holding the best job he had ever had in his life, was paying for a home, and supporting a family of healthy, happy children. The prospect of the strike's being successful was exceedingly poor. This man felt all the normal impulse to care for his family, to store up for the future, and to give service to a corporation whose paternalism he considered benevolent. Yet, despite the fact that society at large might have commended a refusal to strike, the call of his particular herd could not be resisted, and no one could really expect him to be a traitor to his group.

The same influence may be seen in the conduct of the most disinterested scientist, who, with threadbare coat, may appear indifferent to the opinion of the world, but still seeks recognition from his own kind. The attitude of many superiors towards their subordinates reflects the same sensitiveness to selected approbation. How many men "show off" before their servants or raise their voice when speaking to individuals to whose opinion they profess to be callous. In certain cases self-esteem seems to become a motive, but we soon discover that back of this a higher approbation is being sought.

One word, one magic word, may be used to denote the final product of this all powerful tendency to be like our associates. *Undefinable*, we all struggle against its tyranny, we repeatedly declare our independence, and now and again break away for a moment, only to find ourselves overwhelmed and swept back into the irresistible force of its might. Needless to say, this giant with which we struggle in vain is *custom.*

Conformity to this rule of life is comforting. I struggle against the change to safety razors or what not, but sooner or later I yield and follow the herd. Custom itself is ever changing; the mowing machine replaces the scythe, and the automobile, the horse; but we change, too, and follow on.

Religion and law, taking advantage of this tendency to conform, also show our intolerance of non-conformity in others, and both have developed elaborate systems by which an attempt is made to induce or compel standardization in conduct. Just as the mother trains the baby, so society regulates the individual by a system of reward and punishment. The good will be rewarded with heaven or riches and power; the bad will be punished by hell or a prison.

I shall not attempt to analyze thoroughly the ways in which these forces act. The sources of custom are akin to those of superstition and prejudice. Why, for example, should men here and now in Boston wear their hair short while women wear theirs long? Why do men wear trousers and women skirts? Religion influences conduct to a considerable extent through custom; yet in theory at least, it sets up an imaginary ideal which can never exist in fact, but which devotees strive more or less assiduously to attain. Lastly, the law attempts forcibly to insist upon conformity in so far as the grosser and more disturbing departures from the rules of the game are concerned.

To sum up, — the human being is born into the world endowed with all the tendencies of his ancestry, both human and animal. At first these tendencies manifest themselves by effort unrestrained except by the sides of the crib. Soon this free expression of the infant's tendencies leads to more or less discomfort on the part of his associates, and an effort is made to induce him to limit these expressions of feeling. The experience of the ages has taught his parents the wisdom of self-restraint, and they in turn, by one method or another, try to train the new recruit to the human race in the practice of self-control.

Going back to our symbol of the sphere, it is a study of the outer surface of non-conformity that we are about to undertake. My conception of the reason for their non-conformity is not based upon the theory of *total depravity*, or of *free will*, or of *determinism.* I believe that in each case some factor or factors have interfered with the operation of the normal tendency to be like their associates, and I think it is possible by considering them in certain groups to find out something about their conduct, and in this way to arrive at certain generalizations which will not only assist us in understanding them as individuals, but will also be of use in our efforts to formulate a better society. We will place those who do not conform, and whose conduct is thus considered to be abnormal or disordered, in the following categories:

1. Children, who lead an instinctive life, not having acquired the customary reactions.
2. The insane, whose conduct, once normal, has become unbalanced by a disease process.
3. The feeble-minded, with undeveloped brains, who are therefore slower to acquire standards, and whose judgments are poorer.
4. Abnormal or psychopathic personalities, those who are neither insane nor feeble-minded, but inherently different or peculiar.
5. The psycho-neurotic, who are sane but inherently weak, not meeting stress successfully.
6. Drug and alcohol addicts, whose conduct is modified by intoxication and its social results.
7. Physical disease, with its depressing influences and economic handicap.
8. Old age, causing some mental and physical enfeeblement and increased hazards.
9. Environment; either overwhelming evils change the reactions, or different types cause trouble when changed.

PSYCHIATRIC EXAMINATIONS FOR COURT WORK.

By Harriet W. Whitney, M. D., Northampton State Hospital

Read at Conference of Massachusetts Social Workers Nov. 11, 1924.

The psychiatric study of persons brought into court is carried on regularly in only three courts in this State, the Municipal Courts of Boston and Cambridge and in the Western District Court of Hampden County at Springfield. Other courts avail themselves of the services rendered by these clinics for individual cases.

The medical work at the Boston Municipal Court was first begun in 1913, when a psychiatrist was appointed as an assistant probation officer, and served until 1915, when the Massachusetts Legislature passed an act establishing a separate medical clinic in connection with the criminal business of this court.

The work in Cambridge is carried on by a psychiatrist who has the office of assistant probation officer, employing part of his time.

The mental examinations of persons brought into the District Court of Western Hampden County was begun two years ago by the Out-Patient Department of the Northampton State Hospital at the request of Judge Heady. For some time previously physical examinations had been made by a physician employed as assistant probation officer.

Each clinic was developed to meet the requirements of its own court and section of the State, but very similar procedures are followed.

I think I am correct in stating that in no case are all offenders examined who are brought into court. Only the repeaters are referred for examination, those noticeably deficient intellectually, or of pronounced psychopathic or psychotic trends, and those who have attracted attention because of the unusual or apparently unexplainable nature of their misdemeanors.

In the Boston Municipal Court the physicians see all prisoners and select those to be examined. A larger proportion are thus examined than in other courts. This is possible as the clinic there is a full time one. Other cases are also referred by the judges, probation officers and lawyers. This Court reports an increasing number of persons referred by their lawyers and I have observed that while few cases in Springfield have been referred directly by their lawyers, they come more frequently to inquire concerning the results of the examination and express a desire to be guided by our findings.

The court at Springfield, serving as it does Western Hampden County, draws its clientele from a larger rural section than the courts in the other cities. Judges in Holyoke, Chicopee, Pittsfield, Greenfield, and Northampton also refer cases to our clinic. Social agencies interested in individuals who come into conflict with the law frequently ask our Department to see them or request the judge to have an examination made.

The greater number of cases studied have been from the Juvenile Courts, though adults are also seen and recommendations made.

During the past two years one or more members of the staff at the Northampton State Hospital have been in court in Springfield each Friday and cases to be examined have been put over for consideration at that time. The limited time which can be given to these cases necessarily restricts the number which can be studied and only those children are referred who have failed under ordinary probationary measures, or those who present some mental twist, or are evidently feeble-minded. Adolescents in court more than once or whose misdemeanors suggest a pathological condition are also referred. A certain number of adult probationers who show psychotic trends of conduct or who fail to conform to probationary requirements are also sent for examination.

It may be interesting to know something of our method of examination. A certain routine appeared desirable and as most of the cases coming up were children or young adults, the form outlined by the Department of Mental Diseases for use in the school-clinic work has been modified and followed, the ten fields of inquiry forming the basis of research in each case. A physical examination is made with laboratory examination for reactions of venereal disease in all women and girls and in children in whom there is suspicion of congenital syphilis. Note of abnormal or pathological conditions is made with recommendations, as to correction of defective hearing and vision, removal of tonsils and adenoids, and dental repair work, nutritional disturbances, and in some cases where endocrine treatment seems indicated. These cases are referred to suitable clinics, to the family physicians or to welfare organizations through the probation officers.

The family history is gone into as carefully as circumstances allow. The probation officers usually have considerable knowledge of these families and in nearly every instance it has been possible to induce one or more members of the family to come for a conference with the physician. Several such conferences are frequently held and finally a fairly adequate picture of the home, environment, development and hereditary influence |can be obtained. The probation officers or the police women have usually visited these homes and have an excellent idea of the conditions. Reports from social agencies which have also been interested in the families are sought and are usually found of great assistance.

The school history of the children is always obtained where possible. Many of them have been in auxiliary classes in the public schools, and the attendance officers and teachers report truancy and misbehavior.

An examination in school work is given to determine what the child is actually able to do, and their practical knowledge is also inquired into; their tastes in reading, and knowledge of current events is taken into consideration. The economic record of the older patients seems of great importance and employers are interviewed whenever possible. The patient is closely questioned in regard to various places where he has been employed, and his relations with employers and fellow employees are considered, as well as his reason for seeking each position and leaving it. The character and moral reactions are carefully investigated and the individual's reasons for his conduct considered.

The psychological test most commonly used is the Stanford revision of the Binet tests. In some cases where there is marked language difficulty the Binet-Simon or the Yerkes Bridges tests are given. Certain performance tests are also used and the findings considered in connection with the psychological tests.

The number of cases considered in Boston (I have no record of these in Cambridge courts) in 1923 was more than double that examined in the entire history of our clinic.

Approximately 200 cases have been considered in Springfield, nearly equally divided as to sex.

I have no record of the number of times each individual has appeared in court, though in nearly every case there has been a second, third or fourth appearance. One boy of 18 had been in court five times since he was 12 years of age and had served sentences at Shirley and was then on parole from the Reformatory. Nearly every individual had failed under ordinary probationary measures or had been on parole from some institution, or both.

The charges brought against these persons runs through a long list, with stubbornness predominating with the girls and larceny with the boys. Crimes of a sexual nature, crimes against chastity, and forgery and bigamy were included.

The intelligence tests showed 41% to be feeble-minded, that is, having an intelligence quotient below 70, and 44% to be borderline or normal. Only 5 individuals had an I. Q. of 100 or 110. In a number of psychotic persons the I. Q. was not taken.

The diagnoses made ranged from the definitely psychotic, including the neurosyphilitics, through the psychopathic, feeble-minded, epileptic, the instabilities of adolescence and pregnancy, and the defective delinquents to those whose misdemeanors appeared due to bad environment and maladjusted conditions. The diagnosis was undetermined in 18 cases, even after repeated interviews and continued study.

The disposition of these cases is, of course, of the greatest interest to social workers. Dr. Desmond says, "Of 450 mental examinations done, we found 73 cases that needed hospital attention. Of this number 10% were committed directly by us, 53% committed from Psychopathic hospitals, 2% returned to feeble-minded schools, and 32% not committed. Among the committed group the largest number were of the paranoid type of dementia praecox, with deteriorated alcoholics second, and neurosyphilitics third. The psychopathic personalities were in the majority."

In the Springfield clinic, as in Boston and Cambridge, an effort has been made to advise the probation officer concerning persons on probation and parole as well as to secure care in institutional treatment where necessary. Judge Heady has shown from the first a desire to co-operate in every possible way and has in almost every case followed recommendations made to the court. Some cases put on probation failed and commitment to some institution became necessary. It must be remembered that nearly all of these persons had been previously on probation. In many cases the best efforts of probation officers to enlist co-operation in the homes along lines mapped out at the clinic failed. The aid of social workers from various churches and charitable organizations has been enlisted in this work and has met with the heartiest sympathy and assistance. The Boys Club, the Boy Scouts and Y. M. C. A. have been of great assistance. The boys and girls clubs have seemed to me to be of the most valuable aid. In a certain section of the city, among the Italian residents, the appearance in court of certain youngsters has been reduced, due largely to the establishment of clubs for boys and girls. Some families have been encouraged to move into this locality that both the boys and girls may come under the influence of these organizations.

The Big Brother movement, uniting as it does all organizations employing a paid secretary which are interested in welfare work, is proving invaluable. It includes all sects and colors. A boy put on probation is referred to the secretary of that organization which would naturally be interested in his welfare, by the probation officer, together with a complete history of the case, including the findings and recommendations of the medical clinic. A man is then found who agrees to interest himself in the boy along these lines. He finds him a job, keeps him in school, helps adjust things in the home, in fact takes the place of a big brother. He makes weekly reports through the secretary to the probation officer. This interest in many cases embraces the entire family, the father is given employment, mother given outside interests, etc.

Perhaps the largest group were classed as defective delinquents. Of these the boys were committed to the Department for Defective Delinquents at Bridgewater. In no case were probationary measures attempted, because they had all been tried previously and proven useless in every case diagnosed. I have felt rather guilty at the low intellectual rating of some boys whom I have recommended for the Department but their anti-social conduct would render them almost as much of a menace among the feeble-minded as in the community. The defectives with higher I. Q's are by far a greater menace to the public than these lower grade boys. They are able to plan, are often shrewd, but are ruthless, have little realization of the gravity of their acts or of the rights of others. They are unable to withstand the ordinary temptations of the community or to profit by their experiences. This has been very clearly demonstrated by some of these boys who have been paroled and in a few weeks are again in trouble.

With the girls the problem has been a very serious one as there is no institution for their training. Some of them have been sent to Sherborn or to the Industrial School, others given suspended sentences to the Reformatory and found employment and supervised in their own homes by the probation officers, or changes of environment have been tried. Some have gone for a period to the House of the Good Shepherd and then found employment under supervision or returned to their families. As with the boys, the various social and charitable organizations have co-operated with the probation officers in the supervision of these girls.

The problem of the definitely feeble-minded has been a very difficult one to solve. The commitment to the State School rests with the probate court and too often the judge recognizes only the lowest grade children as suitable for commitment and does not consider the training they receive. The superintendent at Belchertown has been most co-operative and has accepted children on school commitment whenever the parents would apply. Many definitely feeble-minded boys and girls who would have benefited by the training at Belchertown have necessarily been committed to the Industrial schools because they came from feeble-minded homes where co-operation could not be obtained and they were more a prey of the community than a menace to it.

Six epileptic cases were seen and sent for treatment to the Monson State Hospital. Two of these boys had made homicidal assaults upon others in school.

Twelve cases of adolescent instability were studied and efforts to tide these children over this trying period continues. One girl has several times gone voluntarily to the House of the Good Shepherd when the stress had become too great. Her background is a poor one — with an alcoholic father, a psychotic mother, and many relatives who mean well but fail in their efforts to adjust things for this poor girl. At present she is taking a course of typewriting and seems gradually to be gaining stability and poise. Several boys also seemed to belong to this group, and suitable employment, and active sports which exhaust their superfluous energies, with the stabilizing influences of the boys' club and scout activities, seem to be of value.

The unadjusted child is perhaps the most unfortunate of all and I wonder how many from some of these other groups may have originally fitted into this class. The mother of a bright intelligent lad, having four other sons and no daughters, was determined to rectify nature's mistake so she trained this boy to wash dishes, cook, play the piano, and draw. She insisted he was not strong, refused to permit baseball, swimming and boys' sports. She brought the boy into court on a stubbornness complaint because he stole money, ran away from home, etc. The boy described conditions pretty well when he said, "She treats me like a sissy and makes me play with little kids." The physician and probation officer finally persuaded this good mother to try the other way, and membership in the Y. M. C. A. Gymnasium and association with boys of his own age seemed for a time helpful.

The mother of an adopted girl of 17 brought her for advice. The woman, a college graduate from an old literary family, established a home when 35 years old and adopted at birth a baby of unknown parentage. In spite of environment this girl at 17 has standards of a much lower class of society and rebels at the mother's plans and ambitions for her, and is stubborn and wayward, but not bad. The mother has been persuaded to realize that a college education is not necessary to the health or happiness of every girl but that the desire for young companionship, sports and gayety is necessary and that certain standards are inherent. A girls' camp during the summer helped, and we hope the associations there formed may continue useful.

A girl who was arrested for shop-lifting at Christmas time has proved an interesting study. She is the granddaughter of a celebrated leader of the Boer war. Her father was brilliant but unstable, a rover, who drifted into Springfield 15 years ago and married a girl who was considered beautiful but of questionable character. He deserted her a few months later and she was cared for in a charitable institution where her baby was born. She became a confirmed alcoholic and is now psychotic and a public charge. The child was cared for in an orphanage. She was bright, bold, rebellious, assertive, had to fight for every privilege she ever had, developed violent likes and dislikes, and in spite of an unattractive appearance has a personal magnetism which makes her a leader. She did well in the public schools but was considered a trouble-maker in the home for older girls to which she was transferred. A church organization became interested in the mother and sent the girl to a small boarding school with an intensely religious atmosphere where she remained only a week. An effort to place this girl in the first home she had ever known was then tried with partial success. Her failure seemed due to her ignorance of family life and the rights of other persons. She became very fond of this family and left for another home very reluctantly. These people complained of her curiosity; she wore other persons' clothing, was selfish but good-natured and grateful. She stole in the stores small articles as gifts for each member of both families and for her mother, and a pair of gloves for herself. Her allowance had been only sufficient to pay for her school lunches and carfare. A young woman has now taken legal guardianship of the girl; she has persuaded the woman to take back the girl after her good traits were pointed out, and the girl continues in school and seems to begin dimly to realize the necessity of consulting older minds and not following her own impulses.

The psychopathic and psychotic cases bordering as they do on each other have in many cases required observation over long periods of time. Some have gone voluntarily to the State Hospital and some have been sent there on observation commitment papers. Several cases were so obviously psychotic that they were committed directly. There were six cases of disease of the nervous system of syphilitic origin. Two boys with dementia praecox are earning their living under supervision but will probably later require hospital care, and several are now under hospital treatment. One woman has been in and out of the hospital several times and at present is in the care of relatives. One young high school girl with manic-depressive form of disease was committed and has now returned to her class; while several others are under supervision of physicians in their own homes. One girl who failed at home is now employed in one of the state institutions, controlling her delusions and giving satisfactory service. The mother of a large family brought her daughter of 18 because she disgraced the family by her immoral conduct, theft in the families of their best friends, etc. The parents were college graduates, the home was a good though not luxurious one, the other children healthy normal members of society. Careful study of the case convinced us there was a psychotic basis and she finally admitted early symptoms of dementia praecox. The condition did not at the time seem to warrant hospital commitment and she is being cared for elsewhere by a physician who understands. The early diagnosis was justified and some of the more advanced symptoms of her trouble are now manifest. She and her family have been spared commitment to a correctional institution and every effort is being made to make her comfortable after the acute stage of her disease has passed.

We have at present at Northampton State Hospital a woman of 22 arrested in a raid on a house of prostitution who at the time was 6 months pregnant. She is physically deformed, her husband has refused to live with her because of her gross immorality, and she has borne one legitimate and two illegitimate children. This woman has an I. Q. in the 50's and appears devoid of moral sense. Her mother is equally low grade and has exploited this girl. The patient is feeble-minded but the state hospital appeared to be the only haven of protection for her and the public.

The aim of all welfare work is to aid the recipient in the best possible way and protect the interests of the community. This is sometimes only secured by commitment to some institution, but in every case where it is humanly possible efforts to adjust the individual in the community should be made.

Dr. Desmond of the Boston Municipal Court clinic says — "In summing up the value of our clinic, we find it lies, not only in weeding out the irresponsible and sending them to institutions other than penal, as well as protecting the community against the malicious offender, but also trying to help the individual delinquent to overcome any mental or physical handicap that might hinder him from becoming more of an asset to his environment."

A STUDY OF THE PERSONALITY, MAKE-UP AND SOCIAL SETTING OF FIFTY JEALOUS CHILDREN.

By Sybil Foster, Smith College School for Social Work

Outline

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  - A. Definition of Jealousy
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- II. Fifty Cases of Jealousy Compared with One Hundred Non-Jealousies
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I

PURPOSE OF THE STUDY

In approaching this study of jealousy in children of pre-school age we have given particular attention to the personality make-up of the jealous child and to the social environment in which he happens to be placed, our aims being to draw some conclusions as to the fundamental causes of this reaction, whether there is a definite "jealous personality" or whether the reaction is set up as a normal response to the accidental or deliberate stimulus received from a given environment. Also we wished to study the effects of jealousy on the child's attitude to life in general.

It is not our intent to consider treatment at any length, but we are led to feel that every effort should be made to guard against situations arising which may cause a passing jealousy to become fixed or exaggerated. In presenting this material we will give first a brief definition of our conception of the term jealousy.

DEFINITION OF JEALOUSY

Jealousy is described by McDougal[1] as an instinctive reaction induced by interference with a loved object, a third person always being necessary to bring this about by coming between a person and the loved object and drawing off attention and interest. He considers envy as separate from jealousy, the basis being an affront to the self-regarding instinct, and having to do with desire for power, possessions and position.

On the other hand, Shand combines feelings of jealousy and envy and believes they arise from the same instinct. "Jealousy springs from sexual love but sexual love cannot be separated from self-love with which it constantly interacts, and it is due to the desire of self-love to possess certain things exclusively for self, such as women, power or reputation that jealousy principally arises. . . . The loss of possession to which jealousy refers, or the failure to obtain it is of such a nature as carries with it a lowering of man's self-valuation. Therefore humiliation, concealment and shame follow." [2]

For the purposes of this study, jealousy is used in the meaning of Shand, that is, jealousy and envy are not considered as separately induced reactions.

From observation of the children studied it would appear that in almost every instance there is interference with a loved object and also these same children demand a full share of all possessions and privileges accorded to the one who is the interloper.

Jealousy appears as a common reaction in childhood, often carrying with it serious difficulties in adaptation and even tragic results. Addington Bruce says, "Never delay in combating repeated manifestations of jealousy to make sure of preventing possible acts of extreme violence, subtle distortions of character that may persist through life, and neurotic maladies of gradual or rapid development." [3] We have only to read the daily paper to see the results of ungoverned jealousy in adult life.

It may be well at this point to cite a few instances of what we regard as jealous reactions in children. A little boy of four who for his short lifetime had been the center of his father's attention was thrust aside by the birth of a new baby. Now when his father shows any interest in or holds the new baby, the older child sits quietly by with his eyes brimming over with tears.

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[1] McDougal, William, *Social Psychology*.
[2] Shand, Alex. F., *The Foundations of Character*, p. 258.
[3] Bruce H. Addington, *Handicaps of Childhood*, p. 115.

A girl of two years and four months is devoted to her mother and resents her father's demonstrations of affection for her. If he kisses the mother first on leaving home in the morning the child refuses to kiss him, only relenting when bribed with candy.

Again a boy of four years and three months was delighted with his baby sister until one day when he saw his mother cover the baby with a blanket which had always been his own property. Since then he has been violently jealous and cannot be left alone with the baby as he has been found "sitting on her and pounding her!"

Another little girl at eighteen months is so jealous of her father's attentions to her mother that she has been known to attack him for simply laying his hand on his wife's shoulders as he passed near her.

Many situations of this sort are known to us at the clinics. At the end of this paper three case studies will be given in detail.

STUDY OF FIFTY CASES OF JEALOUSY

INTRODUCTION

The case histories which form the basis of this study are those of children attending the Habit Clinics in Boston. The ages range from 2 to 6 years; the children come from varying social and economic levels and racial groups. The families of some are already known to ten or more social agencies, while others come asking advice for the first time.

Records have been taken from the clinics operated by the Community Health Association of Boston, and from those under the State Division of Mental Hygiene. As one person, Dr. Douglas A. Thom, is director of both groups of clinics and as the two staffs meet jointly, the social histories and clinic procedure are uniform.

Fifty cases selected on a basis of jealousy being one symptom, have been studied.

The data obtained is shown in the following charts, compared with data obtained from 100 cases taken chronologically from five separate clinics in the city, drawing in this way from different racial groups and economic levels.

As used in this paper certain words and phrases have the following meaning:

Disturbances of sleep: includes every form of restlessness from tossing about in bed to dreams, sleep-walking, talking and night terrors.

Food Capriciousness: includes lack of or finicky appetite, refusal to eat or demand to be fed and vomiting or regurgitation if forced to eat.

Temper tantrums: include uncontrolled outbursts of temper, kicking and screaming, breath holding spells when the child may become cyanosed and simulate a convulsion.

Special attachment: by this we mean an undue dependence of a child on one parent or other adult, refusing to allow the object of attention out of his sight and resenting care from any other source.

Lack of training and discipline: by this we mean lack of any constructive plan of discipline, parents who disagree in method and do not back each other up, uneven discipline, punishment on one day for what will be permitted on the next.

Home divided by friction: may mean family quarrels over trifles, disagreements over the training of the children, or fundamental marital, religious, or racial differences.

Neurotic parents: include those who glory in their "nervousness" and many physical complaints and who "can't stand" normal childish activity because it "gets on their nerves."

DESCRIPTIVE REPORT

Sex: A most interesting fact brought out by this study is that two out of three in our group of 50 jealous children are girls. In order to check this figure even more closely than by the 100 cases of non-jealousy, a count was made of the first 500 cases referred to the clinics. The boys and girls in this group were found to be evenly divided. A question may here be raised as to whether the reason for this large proportion of jealousy in girls has a deep biological basis or whether the social environment of the boy is such as to less often arouse feelings of jealousy. Unquestionably with some races the home life is built up around the boy, particularly the first-born, and all give way to his will and pleasure, whereas the girl has no standing in the family group and is given no consideration.

Age: Our large number of jealous children fall in the 3 to 4 year age group. According to Kirkpatrick's suggestion of various stages in the development of a child, we have at this age a personality emerging from the Imitative and Socializating age and entering upon a period of Individualization. To quote, "In order that the new conscious personality may be individualized, the child instead of sharing and absorbing the mental life of others all the time, must act independently and organize his experiences in his own way. This seems to be the reason nearly all children near the age of 3 years become more independent and usually show more or less contrariness. Sometimes individuality is developed without any distinct break with other personalities, but frequently there is a distinct period or at least occasional spells of contrariness." [1] It would be interesting to follow these children over a period of several years and see if the reactions they are showing pass with their normal development or become "set" and are carried on through life. As is shown by the figures in 27 of our 50 cases the jealous child is the oldest in the family. This is not unexpected as the majority having reached the age of 3, time enough has elapsed to bring a younger brother or sister into the family group, and not enough time has passed for this younger child to have become companionable and interesting to the first-born who must adjust to a complete over turn of his heretofore unquestioned position.

Intelligence: There are no facts brought out in studying the jealous children which would indicate that we are dealing with any special intelligence level.

Personality Traits: There is greater lack of confidence among the children in the general clinic group than is shown by the jealous ones. Selfishness is a prominent trait in the jealousy cases as is pugnacity, whereas domineering and stubbornness are equal in the two groups. Proportionately a few more jealous children resort to temper tantrums to gain their ends, while over 50% make a positive demand for attention in one way or another.

As would be expected, there is a greater number of special attachments of children for one parent or another in this group of jealousies, than among the other children. From our observation there would seem to be no fundamental sexual basis for this. The eight children showing marked attachment for the mother were all girls; whereas of the six children showing attachments to the father, four were girls and two were boys. We are inclined to feel that the determining factors in these attachments studied is the amount of attention received from one parent or another. In this connection it is of interest to see that in the matter of attachments the reaction is often reciprocal, there being in these same 50 families a high degree of favoritism shown by parents for individual children.

Cruelty as a character trait is seen in our clinic cases only rarely, yet five out of the group of 50 show this reaction. Our jealous children also show a decided tendency towards neurotic fears of various sorts. The day-dreaming child is seen more frequently in the non-jealous group.

Undesirable Habits: We have an unusually high proportion of disturbances of sleep as well as food-capriciousness in the jealousy group. The restless sleep might be explained by the emotional tension the jealous child is under, when all the events of the day as interpreted by him may make him feel thwarted and inferior. The food-capriciousness may well be another way of gaining the attention and consideration desired, also there may be some loss of appetite due to the general unhappiness of the child who feels disregarded. Enuresis is a difficulty in one-half of the 50 jealousies and only occurs in one-third of the non-jealous group. Ten of our 50 cases were referred to the clinic definitely because of this habit, and 14 others were found to be troubled in this way though no mention of it was made at time of reference. The reason for this high figure might be questioned. There may be an emotional basis, or this habit may also be thought of as a possible means of obtaining attention, or both enuresis and jealousy may be symptoms of the same type of neurotic make-up. Nail-biting and thumb-sucking are resorted to by a higher proportion of the jealous children than the others. If these habits are considered as pleasurable sensations taken up as compensation for frustrated emotions, then it is interesting to note that masturbation occurs less often among the children who show jealousy than among those who do not.

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[1] **Kirkpatrick, E. A.,** ***The Individual in the Making,*** **p. 112.**

Destructiveness occurs frequently and a full third of the group of 50 are markedly hyperactive. Truancy, lying and stealing occur seldom in our usual clinic group, and relatively the same proportion holds true in the cases of jealousy.

Play Life: The opportunities for play open to a little child in city life are meagre, particularly so if his lot happens to fall in the congested districts. The family purse is slender, affording but few rooms to live in, so that there is no space which he may call his own where he may play as he likes. Outside the door are traffic and dirt; inside, crowded conditions spoil his efforts at self-expression, which his elders consider as nerve racking mischief. In lack of other space the kitchen may be chosen to toss his ball in. If the ball happens to fall into the family soup-kettle, swift punishment is sure to fall upon the offender. But moreover, actual danger may result to himself and others from such little acts. Shiny knobs on the gas stove are so fascinating, and he well knows that at least excitement will follow if he plays with them. Both our groups are limited in play, but the children showing jealousy are particularly limited in their social contacts. This is partly due to their pugnacious conduct, which makes them unpopular. However, even with this limitation, 9 of the 50 children definitely lead and dominate their playmates.

Type of Home: In both our groups we find there is some friction in the home, either because of marital discord or divided discipline, and a large proportion of all the children show an obvious lack of constructive training.

Dr. Thom said, "The home must be considered the workshop in which the personality of the child is being developed; and the personalities of the parents will make up, to a very large extent, the mental atmosphere in which the child has to live." [1] If then, the "workshop" is not well organized and operated, is not the product likely to be a poorly organized personality?

Types of Parents: Here we find in both groups two-thirds of the children having at least one parent who may be classed as neurotic, also they share alike the over-solicitous and nagging parent. Many times at the clinics we see parrot-like reproductions of adult conduct which give a vivid insight into the home life. When we consider that these children are all in the most imitative stage of their development or just passing through it, we feel keenly the need of training for adults in their own habits of control lest they act as living examples of undesirable conduct.

Punishment: With 28 out of our 50 children an attempt was made to rule them by physical punishment. Here we might well question what part resentment and injured feelings play in their general overt conduct.

Frequently it is the parent's custom to try to gain control by comparison of one child with another, as "You're a bad girl, we like Mary, she's nice and quiet." This method is found to produce resentment, it tends to increase feelings of jealousy and inferiority and should never be indulged in.

Teasing: Exactly one-fifth of the jealous children are objects of teasing from one source or another. These case histories bring out clearly that to a certain type of make-up, adult or child, teasing is of immense satisfaction. The pleasure derived from watching the victim squirm apparently outweighs all thought of the probable discomfort and possible harm to him. When the instigator is a full grown man and the victim a little child, we can well picture the helpless feeling and hopeless resentment which is being built up as the process continues.

Summary: We may conclude from these figures that the jealous child is more often a girl between three and four, frequently the oldest child. In make-up she is likely to be independent and selfish, pugnacious, demanding of attention and resorting to various means to obtain it. Often she shows undue attachment to one parent and is subject to mild neurotic fears. She is seldom a day-dreamer, frequently troubled by disturbances of sleep, food-capriciousness, and enuresis, often destructive and hyperactive, leading playmates in some instances, with play opportunities generally limited and little chance for social relationships.

The usual environment seems to be a fair home, lacking in training and discipline, often showing favoritism and neurotic parents. Physical punishment is used in an effort to obtain discipline and the child is not infrequently subjected to teasing.

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[1] U. S. Dept. of Labor, Children's Bureau Pub. 135. *Habit Clinics for the Child of Pre-School Age,* D. A. Thom, M.D.

We are led to feel that the average child in the clinic is of extraverted make-up and that the jealous child as seen by us has the same make-up but accentuated and exaggerated.

With this active, domineering child placed in an environment offering little in the way of intelligent training and guidance, with limited play opportunities, many times thrust aside in the family group by the advent of another child with little attempt made to help him meet this situation, there is no cause for wonder when jealousy arises.

CHART I

SEX, AGE, STATUS OF CHILD IN FAMILY, INTELLIGENCE LEVEL	50 JEALOUSIES NO.	50 JEALOUSIES PERCENT	100 NON-JEALOUSIES NO.
Male	16	32	51
Female	*34	68	49
Up to and including 2 years	1	2	4
2–3 years	9	18	13
3–4 years	*21	42	25
4–5 years	8	16	15
5–6 years	5	10	13
6 up to and including 12 years	6	12	30
Only child	8	16	9
Oldest	*27	54	37
Youngest	6	12	14
Favorite	3	6	11
Peculiar or Invalid	* 6	12	26
Defective I. Q. 50–70	2	4	3
Backward I. Q. 70–90	7	14	20
Average I. Q. 90–110	6	12	20
Superior I. Q. 110–	8	16	14

CHART II

PERSONALITY TRAITS, UNDESIRABLE HABITS, PLAY, LIFE	50 JEALOUSIES NO.	50 JEALOUSIES PERCENT	100 NON-JEALOUSIES NO.
Shy	12	24	24
Negativistic	4	8	10
Lack of confidence	* 1	2	8
Selfish	*21	42	27
Domineering	22	44	42
Stubborn	23	46	40
Pugnacious	*31	62	43
Temper tantrums	*30	60	53
Demand for attention	*27	54	36
Special attachment to parents	*14	28	10
Favoritism	*16	32	13
Cruelty	* 5	10	4
Fears	*18	36	24
Day-dreaming	* 3	6	11
Disturbances of sleep	*32	64	24
Food-capriciousness	*29	58	44
Enuresis	*24	48	32
Nail-biting	4	8	5
Thumb-sucking	*11	22	15
Masturbation	7	14	18
Truancy	4	8	6
Lying	4	8	7
Stealing	1	2	3
Destructive	* 9	18	10
Hyperactive	*17	34	10

* Indicates interesting comparisons.

PERSONALITY TRAITS, UNDESIRABLE HABITS, PLAY LIFE	50 JEALOUSIES NO.	PERCENT	100 NON-JEALOUSIES NO.
Leads Playmates	* 6	12	1
Led by Playmates	1	2	0
Plays alone	8	16	16
Plays with older children	4	8	3
Plays with younger children	0	0	0

CHART III

TYPE OF HOME AND PARENTS, RELATIONS BETWEEN CHILD AND HIS ENVIRONMENT	50 JEALOUSIES NO.	PERCENT	100 NON-JEALOUSIES NO.
Lack of Physical Necessities	4	8	12
Lack of Training and Discipline	34	68	62
Lack of Opportunities for play	25	50	51
Lack of Opportunities for social relationships	*20	40	23
Home divided by friction	8	16	15
Parents ignorant and irresponsible	2	4	9
Parents neurotic, "Nervous"	16	32	33
Parents physically handicapped	2	4	10
Parents over solicitous	7	14	17
Parents nagging	3	6	7
Child ruled by punishment	*28	56	23
Child ruled by fear	3	6	4
Child ruled by stronger will	2	4	3
Child ruled by emotional appeal	1	2	2
Child teased by parents or relatives	* 6	12	1
Child teased by siblings	* 4	8	0
Child teased by playmates	1	2	2

* Indicates interesting comparisons

SUMMARY AND CONCLUSIONS

Between the ages of one and five a passing jealousy is probably a normal thing. The little child craves attention and on the advent of a younger one the parents' love has to be shared. The adjustment should, however, soon be made as a child finds the new brother or sister does not deprive him of the mother's love.

Frequently the passing jealousy may through accidental or deliberate fostering become fixed, if so then the child is headed for difficulty. Dr. William A. White says, "This is the period when all the tendencies which are to be motive forces in the future history of the individual acquire their initial direction. It is the time when the foundations of the future character must be laid."[1] For this reason it is most important that the first indications of jealousy should be handled quickly and wisely to prevent this reaction becoming firmly established.

In The Psycho-analytic Study of the Family, Flügel states, "We have seen that the nature and duration of the feeling of envy and jealousy and hate which a child is liable to experience towards one or the other of its parents is to a very considerable extent dependent on the behavior of this parent toward the child."[2] This our observations bear out, and unfortunately, parents have little appreciation of the fact. The thoughtless inciting to jealousy to which many little children are subjected makes it almost inevitable that serious difficulties in social adaptation should occur. It is said "that in adopting his attitude toward the members of his family circle a child is at the same time determining to a large extent some of the principal aspects of his relations to his fellow men in general: and that an individual's outlook and point of view in dealing with many of the most important questions of human existence can be expressed in terms of the position he has taken up with regard to the problems and difficulties arising in the relatively narrow field of the family." [1]

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[1] White, William A., *The Mental Hygiene of Childhood*, p. 51.
[2] Flugel, J. C., *The Psycho-analytic Study of the Family*, p. 156.

It is an interesting fact that almost invariably it is the extraverted child who is being brought to the clinics for children of pre-school age. At this age the conduct of the quiet, pliable, shut-in child is to the average parent quite acceptable, and for this reason slips by without an opportunity for study. In reality this child is in as much need of help and guidance, if not more, than the pugnacious "fighter" who by temperament is able to grapple with life actively. Beatrice Hinkle aptly describes the introverted person as "one upon whom heavy blows are being rained in such rapid succession that the chief effort of the victim can only be centered on defending himself and warding off blows from his most vulnerable parts. He cannot find opportunity to become the attacker in kind because the blows continue ceaselessly. Aggressive action is inhibited. Only if he can discover some subterfuge, some indirect method of a different character can he hope to gain opportunity to assert himself." [2]

From this study we are led to feel that jealousy is not an "inborn" trait, but is in general the natural product of the environmental situation in which it is the child's misfortune to be placed. It may be that in some instances there is an inherent tendency towards a neurotic make-up which makes it easier for a given environment to arouse jealousy.

Personal recollections of adults whose childhood memories are still vivid, lead us to believe that many children conceal their jealousy in every way possible. Often they will assume an attitude of unconcern and indifference, drawing away from the battle. This feeling is borne out by McDougal[3] who notes that jealousy produces two forms of reactions. One person may slink away and hide and sulk, whereas another will push forward and demand attention. In either instance he may exhibit anger toward the intruder.

It may be that in our clinic work we are missing an important type because our patients are, as a rule, referred when their overt conduct is disturbing, rather than when their mental content would indicate difficulties.

APPENDIX

CASE I

Freda Jordan was just three when brought to the clinic by her mother at the suggestion of the Settlement worker. For some time she had been troubled with enuresis, had been giving way to explosions of temper, and was extremely jealous, even going so far as to attack her sister in a fit of rage.

An interpretation of the social environment in which it was the fortune of this child to be placed is as follows: The home consists of three barren rooms, dark and damp, on the first floor of a poor brick tenement house in a congested district of the city. During the winter the family live in one room because of the impossibility of heating the whole place. There is no opportunity for play in the house, and outside there is only the paved street filled with traffic. Because of unemployment the family has needed frequent public aid.

The mother is a frail, unhappy appearing woman of Nova Scotian stock. When she was nine years old her mother died leaving her the eldest of seven children for whom she had to assume responsibility. She had no carefree girlhood, as life in the fishing village from which she came was always a bare struggle for existence. She is fond of her children, but is irritable and vindictive in her manner with them. She broods continually over her ill luck since leaving Canada and has a pessimistic attitude toward matters in general.

The father was born in Wales and was employed in the coal mines until he migrated to Canada "to see the world." There he married and after service overseas during the World War he brought his family to the U. S. hoping for better opportunities for work. He was disappointed in this, reaching here in a period of industrial depression and has only been able to find shifting jobs. He is industrious and eager to work.

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[1] Flugel, J. C., *The Psycho-analytic Study of the Family*, p. 4.
[2] Hinkle, Beatrice M., *The Re-Creating of the Individual*, Harcourt, Brace & Co.
[3] McDougal, William, *Social Psychology*.

Rachael, six years old, was a little baby at the time of the Halifax disaster and was nearly killed in falling wreckage when the family lost all its belongings. She is a gentle, passive, and overconscientious child who gives no trouble whatever. She is friendly and ready to play with Freda, but has so often been the defeated and battle-scarred victim of her attacks that now she is afraid and gives way to her at once although three years her senior.

Grace, the baby, was six months old at the time Freda was first known to the clinic. Her development has been most interesting and will be discussed later.

Freda has many unfortunate personality traits and undesirable habits well built up. Her birth and development were normal except for a slight speech defect which is still noticeable. She had great difficulty in establishing good toilet habits, nocturnal enuresis still persists. Though she sleeps all night, she is restless and tosses about. Occasionally she has had night terrors the effect of which she carries over for a day or more. She woke one night insisting there was a man in the room, for hours she could not be pacified. All the next day she would look furtively into the room and refused to go in alone.

Between the ages of one and three she had pneumonia twice followed in quick succession by measles, mumps, chicken pox and whooping cough. This meant an extended stay in the hospital. For some time it was expected that she would not live, and she was the object of great solicitude and concern. The mother believes she became so hopelessly "spoiled" at that time that she can never improve. In fact it is felt that the mother gets decided enjoyment from having an "impossible" daughter who is the terror of the neighborhood and of interest to psychiatrists.

Freda is impudent and defiant, in a rage she destroys what comes in her way. She bites and scratches Rachael when displeased with her and cannot get her own way. One time she bit her in the abdomen so severely as to draw blood. Another time when Rachael was ordered by her father to maintain her rights and stay in the chair in which she was sitting and which Freda wanted, she was promptly dumped on the floor by her sister who then sat down and quietly rocked.

Discipline is attempted but seldom is successful. A constant nagging is kept up but no constructive enforcement is made. When finally the exasperated mother does descend in wrath to demand that her commands be obeyed she is apt to be far too severe and unwise in her treatment. As she expressed it, on one occasion, "I got so mad I licked her and licked her until I was tired and her father made me stop and even then she'd be darned if she'd say she was sorry." Frequent threats of "I'll take you to the doctor," "I'll send for the nurse" or "You'll be sorry when I die and you have no mama" are in daily use.

Freda delights in playing "house" with her dolls. She seldom plays long with Rachael before a row develops. She has only one other playmate, Billy, a year younger, whom she completely dominates. All others keep out of her way.

She attends kindergarten, but is slow to mix with the group, preferring to be an observer of the games. In her psychometric examination she obtained an I. Q. of 91, but she was not co-operative and was inclined to be negativistic. No successful retest has been made which would give a fair estimate of her ability.

Jealousy is aroused only in regard to Rachael. Any attention to her is deeply resented, it makes no difference who shows the attention or in what form. However, if the docile Rachael is teased or set upon by children in the neighborhood, they have to reckon with Freda. She instantly flies to the defense with any weapon available. One day she chose a child's shovel and was about to attack a boy of seven when her mother intervened. She was dragged home, shouting, "I'll kill him, I will."

Freda has now been known to the clinic for over two years and though contact has been kept up over this period and the enuresis has stopped, it cannot be said that any improvement has been shown in this child's general habits of reacting to life.

A description of the family relationships and attitudes as they exist may show some reason for this. It was soon learned that Freda's obvious jealousy of her older sister was a source of great amusement to her father, whose daily interest on return from work was to incite her to outbursts of rage. He buys candy for all the children, but hides one box, giving none to Freda. When she has stormed sufficiently to satisfy him he produces the other box. It has been clearly and emphatically pointed out to him just what he is doing and the dangers, but he persists in devising new ways to torture the child. He is undoubtedly sincerely fond of his wife and children, yet he has no conception of how his jibes hurt. Strong and independent, he feels there is too much worry over trifles and too much interference with a man's family in this country, and his general attitude is "You can't tell me a thing." He is however a good provider when able to obtain work, honest, steady, and a regular church attendant, taking great interest in the church activities.

He has the same teasing attitude toward his wife, frequently poking fun at her in the presence of callers and belittling her efforts. He says, "Of course the children are bright, they take after me, I don't know where else they would get it." This obviously irritates his wife and it is reasonable to suppose that it may be partial cause of her general unhappiness. She is continually troubled over finances and suffers from rheumatism which has been increased by night work scrubbing buildings to supplement the income.

Rachael is openly the father's favorite and is used by both parents as an example in trying to obtain good behavior from Freda. She shoulders the family cares and worries continually. She has a fear of her mother's dying and is troubled because she has to work nights. When given some new shoes which her mother bought with money she had earned, her father teasingly said, "See the nice shoes papa bought you." The child instantly flared up, with "You mean thing, my mama worked hard on her knees for those shoes, she did." At Christmas she wrote a letter to Santa Claus asking for a desk but added, "Never mind if it costs too much." She delights in school and is anxious to excel. She has few friends and cannot be made to stand up to Freda and fight for her rights.

Grace is now a dominating little personality of 20 months, pugnacious, destructive, ruling all who come in her way, even Freda gives in to her will. Her conduct is exactly patterned on the successful methods of Freda. She is violently jealous of any interference with her mother, demands to be in her presence continually and will be waited on by her only. Neither sister is allowed to sit in her mother's lap in her presence. When the father shows any demonstrative affection for his wife it causes an outburst of temper in the baby. It is with a decided air of pride that her parents say, "She can get anything she wants, she's twice as bad as Freda at her age — and look at the size of her!"

This case story brings out several points for consideration. We have here two distinct types of reaction to life in Freda and Rachael. Freda certainly appears to be heading for maladjustment. Unpopularity and lack of social contact are sure to be her lot if her present attitudes continue.

There is room for conjecture as to what real feelings lie hidden in Rachael's shut-in little personality. . . . It may be that she also is suffering from feelings of jealousy and inferiority and is an example of the type so seldom recognized. Her tendency to introversion may well bear watching.

Grace seems to have used her powers of observation and decided on the way she will obtain her desires in life, and at present she is certainly successful.

The father's innate enjoyment of teasing and his inability to accept suggestion on the dangers of the proceeding make the outlook appear doubtful. Until the unconscious pride of having such "different" children is done away with there is little hope of accomplishing anything in the way of personality development for these three children.

In spite of close study by psychiatrist and social worker this has been from the start a most baffling case and as far as treatment is concerned, may well be called a failure. Obviously Freda is responding normally to the kind of stimulus she is receiving from her environment. During the time we have known the family, we have seen this same environment produce just such another as Freda.

We need to know what lies back of this situation even farther than we have probed. Why is it impossible for the father to see the dangers of his methods and accept advice? Why is the mother so defensive and unhappy? With time and patience we may find the answers and so be able to help work out a satisfactory adjustment.

CASE II

Angelina Romano, a little Italian girl of three years, was referred to the clinic by the Children's Hospital after a complete examination had failed to show physical cause for her loss of appetite and insomnia.

Study by the clinic staff brought to light many unfortunate personality traits and undesirable habits on her part which might well be considered the natural product of the training which she had received.

The family live in three rooms on the first floor of a brick block in a fairly well kept tenement district. Conveniences are modern, the rooms are freshly painted and the windows are attractively curtained. The whole place has a home-like air and is scrupulously clean. The father is frequently in difficulties as he is a Union man and has been forced out on strike upon several occasions. During such times aid has been given from the Union funds.

The mother came from Italy sixteen years ago. Though she has never attended school she appears bright and intelligent. Up to her marriage she worked in a cigar factory. Since her marriage both she and the children have had frequent illness and she has allowed herself to become a "chronic worrier." Recently she had a serious operation from which she has not made a good recovery and this has made it necessary for her many times to follow the line of least resistance in her household duties.

The father is a Neapolitan. He is in good health, is an experienced machinist and can command a good wage. About the home he is kind and gentle, although rather uncommunicative.

Maria was a normal baby, causing no worry to the family. Both she and Lucia, who was born after our clinic contact began, are dark-eyed, sunny faced babies. Angelina is fair-haired, thin and sallow. Her blue eyes are sad and she wears a discontented and sulky expression.

Her birth was uneventful. She was breast fed to seven months and bottle fed to ten months. The weaning process was difficult. She refused one food after another and was solicitously forced to eat. It became a daily worry to see what she could be made to eat, and both parents continually catered to her desires. At the time she was brought to the clinic it had reached a point where she disliked all foods and if teased or forced to eat she would promptly vomit, thus causing more consternation in the family.

She had difficulty going to sleep. Sharing the same bed with her mother, she refused to go to bed until her mother did, sometimes at 11, 12 or even 2 A.M. This trouble was started by her father's insisting that if she cried at night she must be held and pacified in order not to disturb the rest of the quietly sleeping Maria. Angelina also has night terrors and bites her finger-nails in her sleep.

Occasionally she has nocturnal enuresis and sometimes wets her clothing during the day. She has had frequent acute sore throats and recently a tonsillectomy was performed. She suffers from chronic constipation.

Before strangers Angelina is diffident and questioning in her attitude. At home she is destructive, tearing things to pieces for no obvious reason. One day she smashed her doll on the stove rather than give it to her sister.

She is particularly jealous of Maria, fights with her continually, and will not share with her. If either younger child is held she immediately demands attention. Her mother has sometimes teased her by saying, "I like Maria best, she's a good girl." This always produces tears.

Angelina's position in the family is a peculiarly difficult one. Just one year before her birth the first born child of the family died at four months, causing great grief to the parents. It is to be supposed that their pent up emotion was spent on Angelina when she arrived. The fear of losing another child made the parents most concerned with her slightest upsets, and went far toward building up the unwholesome over solicitous attitude to which she was subjected. Then having been the idol and center of attention for a year and a half, she was sent to live with an aunt for several months only to find on her return that she had been supplanted by Maria, an attractive good natured baby. There is little wonder under these conditions and with no understanding help from her parents that she found it impossible to adjust to meet the situation.

Discipline in this home is divided. The mother's chief method is spanking. The father objects to this and comforts the victim. Threats are much in use, and at present the most productive of results is, "You stop, or the Doctor will scrape out your throat."

The children are never allowed out alone. The mother is afraid of automobiles on the street, and at the back of the house rubbish is thrown out, thus making it an unsatisfactory place to play. Because of the mother's ill health during the past winter the children were actually never even out of doors for weeks at a time. On rare occasions their father dragged them out on a sled. In the house they have their dolls, but as the mother has little imagination in devising new games for them the result is that they are bored and cross the greater part of the time.

Angelina started kindergarten this winter, but because of an epidemic of children's diseases which frightened the parents she was not allowed to continue. Although a satisfactory psychometric examination could not be made because of her restless attitude and refusal to give attention, it was felt that she was in no way deficient.

The home life is apparently congenial and the tie between relatives is close and friendly. Consciously the parents do not make favorites among the children, but actually it would be almost impossible not to show more attention to the attractive smiling younger children. Certainly from those outside the family these two children receive more notice and Angelina frequently has to listen to comments in regard to the difference in looks between herself and her sisters. Being an attentive little person, she probably fully realizes which one the comparison favors. It might be said here that even though the lack of family resemblance is so marked, there has been no reason to believe that Angelina has not the same parentage as the other children.

Shortly after our seeing Angelina at the Clinic it became possible for her to go to spend the summer with an aunt who had cared for her before with particularly good success. This plan was tried out as the psychiatrist felt with such a disintegration of the physical and mental aspects of life as this child presented, it would be impossible to start re-adjustment under the same environment.

After the first few days with this aunt, who calmly but wisely asserted her position as leader, Angelina settled down to a normal routine of living, eating and sleeping properly and getting some enjoyment out of life. She was, however, still inclined to demand her full share of attention, and felt her cousins received more than she did in some ways. Only when visited by her parents did she resort to whining and physical complaints, dropping them at once when they left.

When she returned home great effort was made to have the parents understand the part they must play if backsliding was to be prevented. They have tried in every way to avoid unfavorable comparisons among the children and have dropped their habit of teasing. If two articles cannot be bought, one for each of the two older sisters, then both go without. This winter Maria needed a new hat. Angelina did not, but the mother said, "I just saved a little more and got them both hats, for she would have been so unhappy." Habits of sleeping and eating are more regular, but there is still room for improvement.

Given a good opportunity, these parents would, we believe, have profited by advice and carried out a fairly successful régime of training. Continually handicapped by ill health, the mother has not been able to keep up regular clinic attendance, and often from lack of energy and courage she has allowed Angelina to have her own way for the sake of peace.

CASE III

Joseph Wright, six years old, was brought to the clinic by his mother because he was troubled with enuresis. This is an instance of intelligent parents who saw in the newspaper some publicity in regard to the opening of the clinic and grasped at the opportunity to obtain advice.

The family live in a newly built up section of small single family houses, near a large manufacturing plant in an industrial city. There is a fenced-in front yard with a well kept lawn and a flower garden at the back. Inside the house the rooms are attractively furnished, bright and sunny. A vacant room opens off the kitchen, and this is given over entirely to the children to do as they like in. The family own their home and are economically independent. They have never been known to social agencies.

On first acquaintance the mother makes an excellent impression, but as she is better known several hampering personality defects show up. She was the youngest and petted child of a large family. At sixteen she left high school and went to work. She is quite deaf in one ear. This handicapped her in her school work, particularly as she was sensitive about it and would not ask for explanation if she missed a point. She worked until her marriage and feels that she was placed at a great disadvantage by never having had home duties or care of young children up to this time. As she says, "I had to learn by bitter experience."

When a girl she had "nervous spells," would faint on the slightest provocation, as for instance, on bumping her elbow. She is sensitive, her feelings are easily hurt, but she responds quickly to approbation and praise.

The father is a graduate of high school and technical school, at present he is a foreman in the large plant near which he lives. He is slow, deliberate, and studious. Marrying late in his thirties when well established in bachelor ways, it has been hard for him to become used to family life. He is idolized by the children and finds it rather wearing to live up to their ideal at all times. He is always gentle and considerate about the home.

Richard, the younger child, now three years old, is also a clinic patient, his difficulties being both enuresis and masturbation. He is an irresistible good natured little chap, the picture of good health. He is constantly on the lookout for fun, and enjoys his mischief and teasing in a rather adult fashion. At the clinic he works quietly until he has most of the toys in his possession, and between whiles he thrusts his inquiring little nose into everything that goes on.

Joseph is a fair haired, slender lad, quiet and slow of speech. His birth and development were normal and his health history was uneventful. He had established good toilet habits at two years, but maintained them for only a year. At this time Richard was born and Joseph was thereby forced to share the family affections. He then began to wet the bed again and to masturbate excessively both day and night, he also showed a desire to be babied and petted by his mother. When first known to the clinic these habits still persisted. He is affectionate, selfish and jealous. He was born while his father was overseas during the World War. At that time the mother made her home with her relatives. She is frank to admit that she showered affection and caresses on the baby, filling her life with his desires and needs in order not to think of the possible fate of his father. When the baby was a year old his father returned. Upon entering the home he greeted the mother demonstratively, paying no attention to Joseph at the moment. The baby was unhappy, showed temper and could not be comforted at once. For a long time after this he resented it when attention was shown to his mother. Because of this, both parents adopted the habit of including him in their demonstrations of affection. When Richard was born Joseph again showed marked jealousy. On several occasions he tried to injure him, once throwing a steel tool from the automobile kit at him. The parents tried to overcome this by seeing to it that both boys shared alike in everything. At the present time if Richard is ill and receives special attention, Joseph will produce a cough or some other symptom which will bring him attention also. Since Richard has become older and more companionable, Joseph has lost his antagonism for him. As a little boy Joseph was shy and diffident. He had an imaginary playmate, "Tony," with whom he frequently played. He formerly had an ungoverned temper, but is learning to control it. Before strangers he is apt to become boisterous and excitable, striving to gain attention.

The mother is not firm with the children. Her method of punishment has been spanking, now she finds that Joseph is growing beyond her and she is losing control. The father, on the other hand, speaks only once and receives instant obedience.

Until recently Joseph and Richard have played entirely by themselves. They showed the lack of contact with other children, and since play with the neighborhood group has become possible, Joseph in particular has enjoyed it immensely. He did not play ball well at first, so his father spent time with him evenings showing him how to throw and catch.

He has learned his letters and colors, but will not attend kindergarten until fall. In the psychometric examination he had an I. Q. of 117, showed judgment above the average, and was thoroughly co-operative.

On studying this situation, it is apparent that though superficially the home appears excellent, there are several facts which make adjustment hard for all.

The mother for some reason feels inferior to her husband, and inadequate in the training of the children. She speaks frequently of the good home her husband provides, of her inability to entertain with ease, and of the effort she has expended in trying to train her children properly, but feels that had they been girls she would have understood them better. This attitude makes it hard for her to accept advice, though she wants it, for first she must admit the fact that she has failed in some ways.

She continually says when any of Joseph's personality difficulties are under discussion, "Oh, he can't help it, he's just like his father; now Richard is like me and I understand him." She obviously likes Richard better. Whether this is only the natural attraction to the responsive Richard, or whether it is based on a real dislike for Joseph or an unconscious incompatibility with her husband, would be hard to say. Undesirable traits of personality in a well loved mate might pass unnoticed, whereas caricatured in a child they might become a source of much irritation.

Joseph's tendency to drop out when his feelings are injured will lead him to difficulties if he cannot overcome it. It is only the beginning of a vicious circle. Because he is quiet and unresponsive, he does not receive the attention that falls to Richard who is bubbling over with fun and mischief. He then draws away from the struggle and the more he draws away the less attention he will receive. In regard to enuresis and masturbation he has shown great improvement. The parents are aware of the differences in temperament of these two children and are alive to the dangers to both types if allowed to become exaggerated. They have sufficient intelligence to steer a safe course with some scientific guidance if they are not too hampered by their own personality defects.

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DANVERS STATE HOSPITAL:

SOCIAL STUDY

TWO CASES ILLUSTRATING PRINCIPLES FOR ESTIMATING THE SOCIAL ADJUSTABILITY OF INDIVIDUALS

By Bertha C. Reynolds, B.A., B.S.

* FORMER SOCIAL WORKER DEPARTMENT OF MENTAL DISEASES

Adjustable and non-adjustable are really relative terms. It is impossible to say of any individual that the environment to which he could be adjusted does not exist somewhere. The practical question is whether such an environment is likely to be found or could be created in the community as it exists, without an impossible expenditure of time and energy.

Can we ever know in advance which persons who come for social service can not be adjusted socially in the community? It is true that we know far too little at best ever to say this with assurance. We do not want to say that any case is hopeless, but the pressure of the needs of ten persons for every five, say, that we have the means to help, forces us to make some kind of a decision as to which those five shall be. With those with whom we work, we are also forced to decide between constructive or merely protective or palliative treatment. It is a matter of great practical importance to know why we decide as we do.

The two cases studied have been selected because they illustrate certain traits of personality which have been found to be significant as guides to a social prognosis, and because they show how those traits, to be understood, must be dug for beneath the surface, upon which the indications might be interpreted in quite an opposite way.

The two cases present certain similarities; and, on the surface, the patients would appear to be about equally promising, or unpromising young men. They are two boys, A. and B., about sixteen years of age, with about equally good home environment, free from vicious influences, with similar tastes, — difficult boys in school, for different reasons, both unadjusted in industrial life. The prognoses for social adjustment, however, as it will appear, can be shown to be quite different.

SUMMARY OF HISTORY OF A.

A., a young man, aged 15 years, 6 months, at time of admission, white, of American parentage, no occupation.

Admission to Hospital: On observation papers. Committed after observation period and remained three months. Reports cover one year and three months after leaving.

Medical Diagnosis: Psychosis with Constitutional Psychopathic Inferiority, or Unclassed — question of Dementia Praecox.

Physical Condition: Height, 5 feet, 4 inches. Weight, 109 pounds. Well developed, poorly nourished. Skin pale. Palate high and narrow. Eyes with markedly restricted visual field, requiring glasses at all times. Slight tremor of protruded tongue and extended fingers. Muscular co-ordination poor. Wassermann negative, in blood and spinal fluid.

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* Now Associate Director Smith College School of Social Work.

Came to social service one month after admission, for investigation of environmental factors affecting his condition.

SOCIAL HISTORY

Family: No nervous or mental disease in father's or mother's family as far as known. *Father,* a traveling salesman, quiet, not a mixer socially, of good habits, fond of his family, rather strict in discipline, not a chum of his son, but interested in directing his reading and securing vocational opportunities for him.

Mother has the appearance and physical make-up which *A.* shows, poor posture, pasty complexion, poor eyesight. Complains of inability to eat more than a little food at a time, — a trait common in her family, which her children seem to have inherited. Facial expression rather "fretty."

Sister M., 17 years, 5 months. For the last two years in State School for the Feeble-Minded where she has just learned to read and write. Mental defect attributed to a fall in infancy. Speech never articulated so that she could be understood easily. *A.* played with her in childhood and was forced to give in to her, also to play younger plays than he would probably have chosen.

Sister E., 9 years old. In the fifth grade at school. Very bright and attractive, sweet natured, universally liked and petted.

Birth and Early Development: Normal, except that note was taken of an unusually rapid heart action. Breast fed for 9 months. From fourth year, no appetite except for sweets in which he was limited, and for fruit and milk. Seemed filled up by very little food. Always seemed to lack normal energy. Recovered well from measles, diphtheria and whooping cough. Was thought to have light attack of chorea at about nine years, and had adenoid and tonsil operation and circumcision about this time. Showed nervous constitution in nail biting, inability to sit still in school, and pallor and coldness of extremities under excitement. He has always had poor control of hands and feet, writes a poor, cramped hand; falls often if tries to run.

Health Habits: Eating poor. Sleep good, — from nine P.M., to seven A.M., slow in waking and "grouchy," but seems refreshed. Some masturbation; never instructed by parents on sex matters.

Disposition and Interests: Very affectionate till recently. Very sensitive to praise and blame, wilting under the latter and reacting by stubborn silence. Obstinate, quick tempered if crossed, showing anger by stamping of foot and by look, not by speech. Reticent about himself. *Interests:* Boys' books of good sort, adapted to his age. Moving picture serials, particularly cowboy stories. Fond of animals. No interest in construction or in making collections. No interest in church which his family attend regularly.

Social Relations: In the crowd of boys but not of it. Awkward physically. Picked upon because he would not fight back. Recently when he has tried to defend himself others have combined against him. Sometimes in trouble from desire to make others laugh or to be a "good fellow" by giving away his father's cigarettes. Had one chum, a quiet, much brighter boy. At home was under strict discipline from his father and more uneven treatment from his mother, who alternately petted and lost patience with him. Father used to whip him for disobedience. *A.* never gave his confidence to anyone. Always was at a disadvantage at home where his feeble-minded sister must be humored, and, where he was always unfavorably compared with his younger sister.

Home Situation: Neighborhood is one of stores and apartment houses of the better class on an avenue in a large city. There is no playground except an occasional vacant lot and the street. Home is a flat in a sixteen-apartment house. Family rent two rooms to lodgers. Have been in financial straits of late, owing to father's being out of a regular position. Rooms are somewhat meagrely furnished, but family have a piano and grafonola, and their home shows effort to give a happy home life to their children.

School History: Entered school at five and left at fourteen after the eighth grade. Repeated two grades. Was out for a time at nine years because of nervousness and then in the open air school. In the sixth grade, failed to pass but was promoted because of his effort, on trial. In the seventh, failed again but was sent to the prevocational eighth. Did poorly here because of lack of manual ability and poor eyesight, and was allowed to graduate only on condition that he would not attempt to enter high school. Teachers remember *A.* as a peculiar boy who tried hard but was very slow and got nowhere in the end. Could give a good oral account of anything he read, but written work was very poor. Showed some reasoning ability in problems in arithmetic. Conduct was generally good. *Mental test* done at the Psychopathic Hospital three months before admission classes him as "Not feeble-minded but enough below normal to make school progress difficult, or any tasks involving higher processes."

Work History: 1. Two-and-a-half months as errand boy for a news agency. Stayed out frequently to go to picture shows. Gave as excuse that the boys were rough, which they probably were. 2. A few days as errand boy in a brokers' office, — a number of boys employed, idle and fooling a good deal of the time. Stayed out as before. 3. A week or two in a machine shop as errand boy and sweeper. Stayed out as before. 4. A half-dozen jobs of a few days each, same result.

Circumstances leading to admission: A. showed a change of disposition from the time he learned that he could not graduate with a high school entrance mark. Ceased trying in school, played sly tricks, became more solitary and secretive, lost interest in things. This attitude continued in industry, although the places selected by his father had each an opportunity for advancement, and his father tried in every way to awaken his ambition. Stayed out to go to Movies whenever he felt like it. Showed no sense of responsibility whatever. Deceived family about staying out, although had previously been truthful. Father brought him to the hospital for advice.

Analysis: A boy of inferior physique and mentality had with great difficulty attained only poor success in school and in his social relations. He entered industry just after his failure in school had been brought home to him. The incentives to ambition held out to him by his father in his first two positions, — the possibility of rising from office boy to manager — were beyond the reach of his ability or interest. He was also quite unadapted to the machinist's trade, having poor eyesight and no manual skill. All these jobs involved companionship with idle ambitionless boys. *A.* had already found in reading and in moving pictures a relief from the struggle with reality, and sought this escape from monotony and from a call to effort which yielded too little to be worth while.

Plan: Change of environment, country preferred, with physical development and outdoor life; work adapted to boy's ability with some appeal to his interest if possible. Referred to a Children's Society for placement, father promising to pay something toward board. Later father decided to take *A.* to New York to work for his uncle who kept a florist's shop, father to live in New York also.

Working out of plan: Report after fifteen months. *A.* did well for six months under his father's close supervision. Grew rapidly in height. Enlisted in the army and served four months at camp in 1920. Was discharged after being absent without leave several times. After this held numerous positions, never for more than a few weeks at a time. Always lost positions because of staying out, for which he could give no reason except that he wanted to go to a show. Is obstinate about not returning to jobs in which father has made an effort to have him reinstated. When he is working, the family give him liberal spending money and freedom to go to any show he likes in the evening, which does not, however, prevent his staying from work in the daytime. When he is not working he suffers deprivation of spending money, but he accepts the situation contentedly and spends his time reading, though he claims he is hunting for a job part of the day. Is not disturbed by the fact that the family are in financial straits. Is suspected of masturbation. Has to be forced to get up in the morning. Weight has increased from 109 to 135 pounds and physical appearance is much better. Face is not dull or listless although not animated. Is quiet at home, not troublesome except for some irritability, probably when he is labored with for his ways. Does not take money from anyone except his mother, nor does he stay out nights. He simply will not take a particle of responsibility about getting or keeping work.

SUMMARY OF HISTORY OF B.

B. a young man, aged 15 years, 10 months, of English-American parentage, shoeworker by occupation.

Admission to Hospital on regular commitment, because of threatening a former foreman and carrying a revolver. Remained seven months. Report two months after leaving — up to the present date.

Medical diagnosis: Constitutional Psychopathic Inferiority. Difference of opinion whether with or without a psychosis.

Physical condition: Height, 5 feet 3 inches. Weight, 105 pounds. Nutrition, fair. Skin, clear. No marked assymetries. Palate high but fairly well rounded. Teeth, fair, rather crowded. No tremor of extended fingers or tongue. Wasserman negative.

Came to Social Service: for investigation of events leading to commitment, also early history. At time of discharge was referred for plan.

SOCIAL HISTORY

Family: Father was 61 years old when *B.* was born. Was subject to seizures called epilepsy, dating from about the time of patient's birth or possibly earlier (records vary). Was committed to this Hospital when *B.* was nine years old, and died here four years later, diagnosis, Senile dementia with Arteriosclerosis.

Mother: Of English birth, domestic worker by occupation, of little education, serious minded, devoted to the boy. Was 41 years old when *B.* was born. Was a patient in this Hospital for six months in the year that *B.* was nine, diagnosis, Exhaustion psychosis, said to be due to overwork and lack of nourishment.

B. an only child.

Birth and Early Development: Normal. Breast fed for 18 months. Family tried to live on father's pension of thirty dollars a month for some years, but mother claims the boy was always well nourished. After he went to school she did some work to add to their income. *B.* showed evidence of a nervous temperament in a very quick temper, common to both parents. Was soon over his spells of anger and never had them without some visible cause. Soon learned that exhibitions of temper always got him his own way.

Health Habits: Good. Mother, while working, provided for a hot dinner for him with neighbors. Sleep, good. No history of bad sex habits. Smoked cigarettes from age 13. Drank more or less for the last two years.

Disposition and interests: Very proud and sensitive, high strung, determined to have his own way. Not an affectionate type, but appealed to most strongly by the trust of anyone he cared for and respected. Silent and seclusive as a child. Subject to moods over trivial incidents, though these were probably very important to him as involving his self-esteem. Spells of gloom and sulkiness would last several days. Sometimes he would threaten to run away, but as he gave ample warning the event terminated in his being the centre of the stage with others pleading with him to remain. Very impulsive, frank to the extreme of sauciness, with a strong sense of justice. His best traits were his sense of honor and his energetic eagerness to work. *Interests:* Reading boys' books of good sort, adapted to his age, also serious books much beyond his age of which he could give an intelligent account. Interested in Socialism and public questions. During the war, followed all the campaigns and made quite a reputation as an orator in discussing them with older men. Did not care for boys' sports, but was kept with his mother and her friends so much as to have no encouragement in this direction. Attended Sunday school as a boy, but took no interest and broke away from church at about fourteen. Had no particular hobbies.

Social Relations: Not a good mixer with other boys. Being kept so much with his mother probably increased his seclusiveness and fed his natural egotism with the interest of older people. Got along well with people he liked; took no pains to be agreeable to those he did not. Love of showing off got him into trouble by silly tricks at school and probably was at the bottom of his mischief and stealing outside. During the last year in grammar school was in trouble with the police because of a scrape with other boys in which he stole from several people he knew. Was not arrested because the Inspector, knowing his extremely high strung nature, thought an appeal to his honor and arrangements for restitution a better way of dealing with him than reformatory treatment under which he would probably "blow up." When tactfully handled he would be truthful about his misdeeds and respond to an appeal to his honor.

Home situation: Family were poor during father's invalidism, — up to *B.'s* ninth year. He was placed out by the State while both his parents were in the Hospital. On his mother's recovery, she obtained work by the day and hired a tenement where she made a home for the boy. They have lived in good working class neighborhoods on the edge of a fair sized city. Their present home is a four room flat on the third floor of a two family house, — rooms sunny, shiningly neat and homelike. *B.* has his room decorated with flags and patriotic pictures and has there a good library of boys' books. Mother has left him with neighbors for the after school period when she was at work and has taken him with her to her Saturday place. Every Sunday afternoon while his father lived, he went with his mother to the Hospital, and after his father's death, to the cemetery, until he rebelled at this, — since when his mother has gone alone.

School History: The Principal of the Junior High considers *B.'s* mental ability good. School record was variable, according as he liked or did not like his teachers. On the whole it was not very satisfactory. Record of the last year was: excellent in mechanical drawing, good in reading, writing, language, history and manual training, fair in drawing, bookkeeping and science, unsatisfactory in arithmetic. He had different teachers in these subjects. He was able to graduate only on condition that he would not go to high school. Effort was only fair, conduct poor. Was very nervous and his teachers overlooked a good deal of infraction of routine discipline, feeling that he had to work off his energy by moving about. He was very saucy and fond of showing off. The School Principal considered him a fit subject for a mental hospital.

Work History: B. worked during the summer and fall of 1919 in two temporary shoe factory positions and for a year and a half following in one position. Was troublesome in that he would not do as he was told and was noisy, impudent and often profane and obscene in his talk. Often showed signs of liquor. After being taken back once or twice, he was finally discharged on account of his conduct.

Circumstances leading to commitment: After his discharge from the shoe factory, *B.* tried for five weeks to get work. He was refused for lack of a recommendation, he supposed, and tried by writing threatening letters to his foreman to get one from him. Says he was always under the influence of liquor, those days, though he concealed it from his mother by drinking in the morning and not going home till the effect had worn off. Finally, he waited for the foreman on the street, threatening him, and as he was found to have a revolver on his person was arrested and in lieu of a sentence, committed to this Hospital.

Analysis: A boy of abnormally irritable nervous makeup has a history in early childhood of poverty and domestic friction from an insane father and of indulgence from a devoted mother during his whole life. He never made any effort to control either his temper or his moods, having learned that he could always get his own way from his mother by indulging them. The same held true at school, — at least to the extent of his gaining attention from others. At work he found fewer allowances made for him. At the same time, his appearance of being older than he was and his conversational gifts caused him to associate with older men and to drink and smoke in order to appear smart. Unstable at best, he was particularly unable to stand a period of unemployment, especially when he took occasion to feel that he had been unjustly treated. He followed his habitual method of reacting by anger, sulking and an impulse to frighten or annoy people into giving him what he wanted. Alcohol removed the small amount of inhibition he had, and he committed a serious offense against the law. In spite, however, of a tendency to numerous outbreaks and assertions of his own will against that of others, he had shown energy, eagerness to work, truthfulness, on the whole, and responsiveness to kindness and to an appeal to honor.

Plan: B. should have a period of training in self-control under the Hospital routine. Then he should return to the community with some provision for supervision through some man whom he respects, companionship of young men of his own age, wholesome recreation of a social sort and work containing opportunity for release of nervous energy, variety and some incentive to develop his abilities. Selling for a grocery or provision store is recommended as giving physical activity and a chance to exercise his talking ability, combined with opportunity for learning an interesting business.

Working out of plan: B. remained in the Hospital seven months, and in that time had only two outbreaks of temper and two or three short periods of depression. Stated that he was under temptation to break out as at home but knew he must not and found it possible to control himself when he tried. Worked in the kitchen and storehouse. Did well on week-end visits at home. When it was felt that he was becoming a little too dependent on the institutional routine, a place was found for him three days a week in a large market in his home city. Industrial conditions prevented getting a full time job. *B.* confessed his dread of leaving the Hospital, — was still in a slightly depressed mood from being called a "nut" on a visit home two days before — but promised to do his best. Came back in the afternoon of the first day. Had gotten nervous with the unaccustomed rush of work and felt so sick that he thought he would have to leave. Was defiant toward his mother's tears, and deep sunk in gloom toward the social worker to whom he said that he had lost his nerve and must come back now for life. Appeal was made to his honor — that he ought to try to get his job back so that, whether he succeeded or not, he could not call himself a quitter. The worker made him see that he probably went at the work of putting up orders just as he had the mechanical work of the shoe factory, as if to make a speed record. Then, when he became confused in trying to remember the places for so many things, he became nervous, — then panicky because he was nervous. He was told that he must cease to think of the Hospital as a place of refuge and *must* make good. *B.* gave his promise to go back next morning and he kept it with good courage. Has done well for two months. Joined the Y. M. C. A. as advised and enjoys the gymnasium, swimming and debates on public questions. He seems to have gotten an idea of what self-control means. Home life with mother is happier than ever before for them both.

What does a study of these two cases yield for social prognosis? It suggests three questions as tests of social adjustability:

1. What did the individual do with the opportunities he had?
2. What did he do with his difficulties?
3. If his methods of adaptation were poor, where did he learn them? If they were the logical result of his experience, could he learn better ones from a different experience?

Applying these tests to the boy *A.* one wonders first if he ever had a really fair chance. One doubts it at school, although his teachers had a great deal of sympathy for him. Classes were composed of forty or more pupils. A slow boy was always behind. His written work was so poor that oral recitation in which he did better was not often allowed him. In industry we have shown how opportunities which were good from his father's point of view held little for him. We do not know what use he would have made of an opportunity which really interested him, supposing such could have been found.

How did *A.* meet his difficulties? In school he met them ploddingly, for years. The crisis was reached when he realized that he was a failure. Then his reaction was a passive one, a letting down of effort, a retreat into a pleasant story-book life where nothing was demanded of him, and this became a habit well fixed, probably, even before he left school. *A.* really worked out no method of adjusting his difficulties. He persistently evaded them; and a habit of doing this is a bad indication for prognosis.

How about *B.'s* use of his opportunities? He had stood out like a sore thumb among the law-abiding children in school — always in trouble, but always having allowances made for him and a new chance given by somebody. His use of these chances was good, — till next time. Yet, after all, the ability to win friends is an asset for adjustment to environment, especially to one so frequently in need of them as *B.* Again, his use of the chance to learn self-control in the Hospital, when for the first time the need of it was brought home to him, shows some power to profit by experience.

What did *B*. do with his difficulties? He thought he had found out how to manage them, by temper or sulks. This was the logical result of his experience with his mother. In the world, that method did not work, — still it was a real active method of adaptation. When he saw that it was a poor method, he dropped it and substituted obedience to authority and control of himself. Alcohol as an adaptive agent was particularly bad for him. The motive for selecting it would be significant if we could know. Apparently, in his case, it was not taken to get away from the trouble of living, so much as to be one of the social crowd he went with, — again an active method of adaptation based upon experience. In the crisis of unemployment, it is true, he probably turned to it as a refuge. Had not the hospital commitment intervened to break the crisis and the habit, *B*. might have made a permanent failure of adaptation. On the whole, however, *B.'s* prognosis from these tests seems good enough to warrant a trial in the community.

Does the outcome teach us anything in these cases? The time is too short to say that *B*. has made good. *A*. did well for six months. There is one circumstance of note, however. *A*. did well "under his father's eye." When he got away from that, even army discipline could not hold him to any sense of responsibility. Before *B*. left the Hospital he had gained so much in self-control that the part of the plan calling for close supervision was changed to "put him on his own responsibility to make good, — giving good surroundings, and making sure of his reporting often enough to keep him in good courage." With this in mind, short though the time is and extremely liable as the boy is by temperament to upsets of all kinds, there is still room for confidence that effort expended for him is well used, in that he is learning to make his own adjustments.

Three Years Later

Report from A is not obtainable, the family having moved out of the city, and left no address.

Report from B.: The vicissitudes of three years, during which time the visitor has seen him occasionally, may be compressed into the following:

1. Seven months of half-time employment in the market to which he went from the Hospital. Wages and working conditions were poor, but *B*. was determined to stick till he could better himself. He left to have a badly needed tonsil operation.
2. Several months of unemployment in a time of industrial depression. At first *B*. telephoned visitor daily and showed much nervous irritability. When it was explained to him that anyone else searching for a job for him would be under a handicap, he accepted the responsibility for the search. Once, he could have had an easy berth at good wages if he would pretend an interest in Christian Science but after consulting his mother he refused.
3. A few weeks of employment as attendant in a General Hospital terminated by operation for appendicitis.
4. Several months of unemployment during which spent a short time in a hospital because of an injury. *B*. and his mother got through this period without recourse to visitor.
5. Work in shoe industry at good wages. Bought second-hand car to take his mother to ride.
6. Realizing the uncertainty of the shoe industry, *B*. entered and completed a two-year course of training as attendant nurse.

THE NEW DIVISION FOR THE EXAMINATION OF PRISONERS

The following statute was enacted by the Legislature of 1924:

(Chapter 309.)

"An Act Requiring the Psychiatric Examination of Certain Prisoners in Jails and Houses of Correction and Providing for the Assembling of Relevant Official Information as to Such Prisoners.

Be it enacted, etc., as follows:

SECTION 1. Section sixteen of chapter one hundred and twenty-seven of the General Laws is hereby amended by adding at the end thereof the following: Keepers and masters of jails and houses of correction shall cause all convicted prisoners serving a sentence of more than thirty days therein, except prisoners sentenced for non-payment of fine or of fine and expenses, and all convicted prisoners serving sentence therein who have been previously committed upon sentence to any penal institution, to be given a thorough psychiatric examination by a psychiatrist appointed under section four of chapter nineteen, — so as to read as follows: Section 16. The warden of the state prison, the superintendents of the Massachusetts reformatory, the reformatory for women, the prison camp and hospital and the state farm, and the keepers and masters of jails and houses of correction shall cause a thorough physical examination to be made by a competent physician of each inmate in their respective institutions committed for a term of thirty days' imprisonment or more. In conducting the examination special attention shall be given to determining the presence of communicable diseases, particularly gonorrhea, syphilis and pulmonary tuberculosis. Keepers and masters of jails and houses of correction shall cause all convicted prisoners serving a sentence of more than thirty days therein, except prisoners sentenced for non-payment of fine or of fine and expenses, and all convicted prisoners serving sentence therein who have been previously committed upon sentence to any penal institution, to be given a thorough psychiatric examination by a psychiatrist appointed under section four of chapter nineteen.

SECTION 2. Said chapter one hundred and twenty-seven is hereby further amended by striking out section seventeen and inserting in place thereof the following: Section 17. Specifications governing the manner and time of such physical examinations and such psychiatric examinations shall be respectively promulgated by the departments of public health and mental diseases. Said departments shall respectively prescribe the medical and psychiatric records to be kept, shall require such laboratory or other diagnostic aids to be used as in their judgment are expedient, and shall forward to the commissioner statements of the results of all such examinations, together with recommendations relative thereto, and the psychiatrists making such examination shall from time to time furnish such other information as the commissioner may request. For the purpose of obtaining further information relative to such prisoners the commissioner may cause inquiry to be made of court physicians and psychiatrists, probation officers and district attorneys, who have made examinations or investigations of such prisoners prior to conviction or who have prosecuted them, and such physicians, psychiatrists and probation officers shall furnish to the commissioner when requested all pertinent information in their possession. The commissioner may cause such further inquiry to be made relative to the offences committed by such prisoners and their past history and environment as he may deem necessary. He shall cause records to be made of such examinations and investigations, and shall transmit copies thereof to the office of the commission on probation which shall cause the same to be filed with its office records.

SECTION 3. Section eighteen of said chapter one hundred and twenty-seven is hereby amended by inserting after the word "health" in the third line the words— or of the department of mental diseases, — so as to read as follows: Section 18. Any officer named in section sixteen who neglects or refuses to comply with said section or who violates any rule or regulation of the Department of Public Health or of the Department of Mental Diseases made under section seventeen shall forfeit not more than fifty dollars.

SECTION 4. As soon as may be after the taking effect of this act, the psychiatric examination required to be made under the provisions of section sixteen of said chapter one hundred and twenty-seven, as amended by section one of this act, shall be made of all convicted prisoners serving a sentence of more than thirty days in jails or houses of correction, except prisoners sentenced for non-payment of fine or of fine and expenses, and all other convicted prisoners who have been previously committed upon sentence to any penal institution.

SECTION 5. This act is hereby declared to be enacted in place of the proposed law accompanying the initiative petition transmitted by the secretary of the Commonwealth to the general court on the thirty-first day of December, nineteen hundred and twenty-three, and printed as current house document number three hundred and seventy-five, and shall take effect on the first day of September in the current year; provided, that if the said initiative petition is completed, as provided by the Constitution, by filing the required number of signatures not later than the first Wednesday of August in said year, this act shall be void.

Approved April 29, 1924.

On September 1, 1924, Dr. George M. Kline, Commissioner of the Department of Mental Diseases, created a new division in his Department, to be known as the Division for the Examination of Prisoners, for the purpose of carrying out the provisions of this Law. He appointed as its director Dr. R. M. Chambers, who for the last two years has been an assistant in the office of the Department. The new Division plans to obtain a complete social and medical history in each case and to follow this with a careful neuropsychiatric examination. The physical examination is made by the jail physician. An outline for history taking has been compiled and will insure uniformity in the work. The Division has offices in Boston, Salem, Taunton, Springfield and Worcester. Each district has a psychiatrist, a psychiatric social worker and a stenographer. A psychologist is on call at all times. The staff at these districts complete the case histories and examinations and then forward them to the central office in Boston. Copies are then sent to the Department of Correction together with certain recommendations.

The work is being carried on in all parts of the Commonwealth. It has not been possible to examine all the prisoners having the qualifications given in the law because the number to be examined greatly exceeds the estimate made at the beginning of the work. It is hoped, however, that large number of repeaters being examined now will reduce the number of those to be examined in the future.

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GEORGE M. KLINE, M. D.
DOUGLAS A. THOM, M. D.
GEORGE L. WALLACE, M. D.

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THE PSYCHOSES OF THE PERIOD OF INVOLUTION

By
James V. May, M.D.
Superintendent, Boston State Hospital, Boston, Mass.

I.

Notwithstanding the voluminous contributions made to the literature of psychiatry from time to time, comparatively little consideration has been given to the striking specific influence exerted by the important physiological epochs of life in the production of psychoses of a definite type.

The fact that excitements, depression, confusion, delirious states, paranoid conditions or a characteristic form of deterioration occur frequently in the aged and that these fairly clearly defined symptom-complexes are attributable to the changes consequent upon the advent of the senium has been recognized for some years. Dementia Praecox was orignally held to be a psychosis resulting from various changes taking place during puberty and the period of adolescence. It is now thought desirable by Bleuler and many others to speak preferably of schizophrenia, many cases of dementia praecox developing long after the adolescent period and apparently having no relation to it. It is true that the appearance of psychoses during the puerperium has long been recognized.

The relation existing between the period of involution and certain mental disturbances has been emphasized by various authorities, and several types have been separated and carefully studied by competent observers. No reference, however, has been made to the obvious desirability of bringing these disorders, due to a common etiological factor and occurring in individuals free from psychoses during the years preceding, together into one clinical group. This would be valuable for purposes of classification if for no other reason. The existence of a common cause for these conditions should, however, be the prior consideration. It has been demonstrated, I think, that some if not all of these psychoses appearing for the first time during the period of involution show sufficiently definite characteristics to warrant their being separated from other clinical groups. This was suggested by the conclusions reached by Matusch (1) as early as 1890. As a result of his investigations he expressed the opinion that:

"1. The climacterium causes psychoses, but not any one definite psychosis;

"2. The climateric mental disturbance cannot be definitely assigned to the senile psychoses;

"3. In every form of mental disorder in the climacterium the latter is the etiological factor."

The most important step towards the delimitation of the involution psychoses was doubtless Kraepelin's conception of melancholia as an involution or a retrograde presenile process (Das Irresein des Rückbildungsalters) as outlined in 1896 in his Fifth Edition. The importance of melancholia as a separate entity was emphasized by the formulation of the manic-depressive insanity concept as elaborated by Kraepelin in his Sixth Edition in 1899. This definitely marked the disappearance of the mania and melancholia of the older writers from the pages of psychiatry for all time. Emphasis was placed upon the appearance of the agitated depressions for the first time during later life, it being pointed out that this condition is to be differentiated from the manic-depressive psychoses by the marked anxiety and apprehension, the absence of retardation, the motor restlessness, the occurrence of self-accusation, often with fear of poverty and ideas of sinfulness, the clearness of the sensorium, the generally unfavorable prognosis and the comparative frequency of suicidal inclinations. He found that sixty per cent of these cases occurred in the female sex and that the depression was associated with the menopause, usually with some mental shock as a precipitating cause. Considerable uncertainty was expressed as to the possible influence of arteriosclerosis as an etiological factor.

In 1907 Dreyfus (2), who was at that time an assistant of Kraepelin's, reported the results of a careful review of the cases which had originally led Kraepelin to his conception of involution melancholia. This review showed a total of 79 cases reported at the Heidelberg clinic during a period of fourteen years. Dreyfus showed that two-thirds of these had recovered or improved to such an extent as to make it possible for them to leave the hospital. A review of the case records showed that over one-half of the patients in question had had previous attacks, usually depressions. In one-third of the cases it was found that the duration of the disease was only three years. Fifteen per cent recovered in from three to five years from the onset of the disease, nine per cent between the sixth and eighth years, and eight per cent between the tenth and fourteenth years. Kraepelin had reported previously that forty-nine per cent of his cases showed an obvious deterioration. Dreyfus' later studies showed this to be present in only eight per cent of the total. On analyzing the case records of Kraepelin's patients he found references in some to brief periods of manic excitement, sometimes for only a few days and even a few hours. In others there were evidences of excitability, manic symptoms in the eagerness of the patient to discuss his affairs with others, inhibitions suggested by lack of interest, loss of affection, or a difficulty of thought. It was his opinion that the long duration of the disease probably led to the idea that its termination was in a deteriorative process. His conclusions were that all of the symptoms found in these patients could be readily explained on the basis of manic-depressive insanity and that there was no warrant for the recognition of any such entity as involution melancholia.

Kirby (3) has discussed the findings of Dreyfus at considerable length and takes some exception to the conclusions which he reached, as shown by the following criticism: — "In a considerable number of other cases the author's conclusion that manic-depressive symptoms were present is based on extremely meagre data. As an illustration one case may be referred to briefly. A man fifty-three years old had an agitated depression lasting over two and one-half years and terminating in recovery. The case record contains no statement of any objective inhibition or feeling of subjective insufficiency, neither are there any statements regarding flight of ideas, or unusual loquacity. The diagnosis, however, is made of manic-depressive insanity, with partial psychomotor inhibition and flight of ideas. The assumption that these symptoms existed is based entirely on the retrospective account from the patient, obtained three years after recovery from the psychosis. He then declared that during the attack he could not think calmly; it seemed that one thought knocked the other down, one thought 'hunted after the other'. He also described a feeling as if there were a cap on his head, as if he were nailed down. These retrospective statements are interpreted to mean that there was partial psychomotor inhibition and flight of ideas. In many other cases the reasoning is just as forced and the deductions based on equally insufficient grounds. . . . The author's aim was to see if the symptoms present fitted into certain schematic formula and thus the analysis became rather a search for diagnostic signs supposed to characterize a definite form of disease. Such a method leads away from consideration of the mental disorder as a whole; a few minor features are emphasized in the picture and because the patient recovers these are raised to diagnostic importance—a little feeling of insufficiency or a slight change of mood in a disorder which ends in recovery are seized upon as evidence that a special kind of disease exists; as a matter of fact, we would hardly miss just such symptoms in many other psychoses. There is no attempt to get below the surface, to understand the evolution of the disorder, or to use the facts in the development in formulating the prognosis."

Kraepelin himself, however, was convinced that his earlier views relating to melancholia were wrong and expressed himself as follows in the introduction which he wrote to the book published by Dreyfus in 1907: — "These results show that for the most of these disorders which have been designated as melancholia there now exists no sufficient reason to separate them from manic-depressive insanity."

In the eighth edition of his textbook Kraepelin (4) referred to melancholia as a presenile condition. He admitted at that time that a great deal of weight had been attached to prognosis and that he had eliminated certain types in the manic-depressive group owing largely to the fact that they terminated in a mental enfeeblement. He himself called attention to the fact that Thalbitzer had questioned the existence of his melancholia as a definite entity as early as 1905. "The significant fact still remains," he adds, however, "that single attacks of depression are disproportionately common in the involution period." He quotes Hübner as reporting twenty-one single attacks of depression after the fiftieth year of age as contrasted with only two single attacks of excitement. "The appearance of depressions, therefore, through the revolutions of this period of life seems to be favored to a special degree." These observations led him to describe a presenile form of depression previously looked upon as melancholia and not related to the manic-depressive group. Kraepelin expressed some doubt as to whether this condition should be looked upon as a form of the acute deliria which manifest themselves from time to time in the course of various psychoses. He suggests that these conditions probably "have some relation to the similar delirious senile forms to be discussed later." These excitements are described as developing suddenly. "These cases are anxious, restless, sleepless, self-accusatory and show delusions of persecution." The delusions expressed are fantastic and usually of a hypochondriacal nature. "They have offended everybody; are eternally damned; Satan is coming and will take them; he is out there. Nature has changed, everything is different, no mercy can come from heaven; there are ghosts in the house; the patients find themselves in the infernal regions, are surrounded by hostile powers, are in a bewitched castle. They will be carried away, thrown into a fiery furnace, their arms and legs cut off, have their throats cut in the presence of a thousand students, and be buried alive. They have a cancer in the stomach, the husband is insane or has had a stroke." In some instances delusions of grandeur occur, and in some instances there are evidences of hallucinations. The sensorium is fairly clear and orientation is usually undisturbed. Although there may be confusional states with clouding, the termination is often in pneumonia, erysipelas or heart failure. Certain histological changes found at autopsy were pointed out by Nissl. These consist almost entirely of the extensive destruction of the neurons. He did not claim that these changes were pathognomonic or that they warranted consideration as indicating a morbid entity.

As melancholia was originally a conception of Kraepelin's, his views should be given full consideration. In his eighth edition (5) he reopened this question in his discussion of the manic-depressive psychoses. "Under these circumstances I thought at first that the involutional depressions described as special clinical forms, melancholia in the narrower sense, which seemed to show essential differences in its general characteristics, course, and to a certain extent in the history of its development, should be separated from manic-depressive insanity. At the same time I was aware of the fact that in a considerable number of the involutional depressions, both on account of their clinical form and their association sooner or later with manic states, their connection with manic-depressive insanity could not be questioned. I therefore made an effort to establish a practical differentiation, entirely without satisfactory results. Further experience has demonstrated, as was shown in the discussion of the presenile psychoses, that they do not constitute grounds for the separation of melancholia. Deterioration is explained by the development of senile or arteriosclerotic changes. Some cases were of long duration, showing manic symptoms before recovery. The frequency of depressions in advanced years we have learned to be a legitimate development of the involutional period of life. The substitution of anxious excitement for volitional inhibition has proved to be an occurrence which is found in advancing years in those cases which had an attack of the ordinary form in the decade before (as shown in our cases 1 and 2). Hübner has, moreover, made the observation that melancholia may show retardation in one attack and not in the next. There remains, therefore, no adequate reason for differentiating the involutional depressions heretofore described as melancholia from manic-depressive insanity."

The integrity of the involution melancholia concept has led to a very widespread discussion. Kehrer (6) as well as Dreyfus analyzed some of the cases which had been studied by Kraepelin at Heidelberg. He refers to the following observations as being especially significant: — "From the fifteenth year of life, at which age manic and melancholic attacks are most frequent (about twenty-five per cent), the curve of the manic attacks falls steadily (with only two important rises at the thirty-fifth and the forty-fifth years) until it becomes less than five per cent at the seventieth year, while the curve of the melancholic conditions with equal constancy increases (with the exception of the fifty-fifth year only), especially between the forty-fifth and fiftieth years, from fifty-two to seventy-four per cent and finally to eighty per cent. On the other hand, the curve of the manic first attacks falls steadily from 28.5 per cent at the twentieth year to 3.5 per cent at the sixtieth, with a slight increase at fifty from 12.7 per cent to 13.4 per cent, while in the male sex the same curve shows no further increase after the thirtieth year, when it reaches its maximum (33.8 per cent) and even shows a particularly sharp fall, from 22.2 per cent to 5.9 per cent, between the fiftieth and sixtieth year. . . . Based on this diagram Kraepelin concluded that the depressions of the involutional period, which did not show special symptoms of some other disease entity, could not be differentiated from those of the earlier periods of life." Stransky agreed that "there is nothing in the form of these depressions, either with or without anxiety, by which they can be distinguished from those recognized as manic-depressive insanity and that neither the course nor the age of onset offer any convincing argument for their clinical independence."

Rehm, Bumke and various others still believe in the integrity of the melancholia concept. Rehm points out that the involutional depressions are to be differentiated from those of manic-depressive by slow onset, absence of constitutional tendencies, the fact that there were no previous attacks, the egocentric attitude of the patient, and the hypochondriacal ideas, as well as hallucinations. Albrecht (7) insists that "There are weighty grounds for maintaining involution melancholia as an independent disease form and not allowing it to be submerged entirely in manic-depressive insanity. . . . There are many melancholias in the involution period which terminate in dementia for which outcome arteriosclerosis cannot be held responsible." Bumke holds emotional shocks to be more concerned etiologically in the production of involution melancholia than they are in manic-depressive insanity. He feels that the intimate association of endogenous with exogenous factors is to be emphasized. (6) "Involution only brings the barrel to an overflow; it only adds exogenous to the individual endogenous momentum so that the sum total leads to the outbreak of a manifest psychosis," Seelert is of the opinion that "It depends on the type of the association whether the organic anxiety psychosis, a melancholia or the depression of a manic-depressive insanity develops in the later period of life. In one the endogenous factors predominate, in the other the exogenous and in melancholia (in its narrower sense) the two maintain a balance." Bleuler (8) attaches great importance to the various forms of involution psychoses. In an introductory way he states that "The involution period brings with it a small increase in schizophrenic conditions, a more considerable number of depressions, and then a number of rarer conditions several of which have been described by Kraepelin. Involution is, however, in this connection, as in general, to be strictly differentiated from the senile degenerations even if the two processes may overlap. Like puberty it is the developmental stage of another life period; the normal matron is still an efficient person for another two decades." . . . The "involution concept which merges into the presenium is expressed now in the sense of a retrogression terminating in death and now as a transition into another life period similar to the 'climacterium.' The designation 'involution psychosis' is based on the latter concept, emphasizing a contrast with the senile psychoses." In discussing manic-depressive insanity he says: "Special consideration must be given to 'melancholia.' It is obvious that many of these conditions fit into the above classification. There are, however, as has already been shown, other depressions, and it is particularly objectionable to bring all of these apparently independent depressions of the involution period together in one group and include them in manic-depressive insanity. Kraepelin formerly definitely assigned a nosological independence to the melancholias of the involution period which, of course, can no longer be maintained under the delimitation of that time. The grounds for that differentiation were nevertheless weighty; these forms have as a rule a very protracted course. They progress very slowly, often for one or two years, remain at their height for several years, and come to a complete decline slowly. Retardation is often covered up by a marked restlessness; genuine agitated forms are common, although rarer than in senile melancholia. They recur less frequently than the others. Single attacks are the rule. Certainly it may be held, if one so desires, that even in old age, and particularly in the involution period, the predisposition to depressive attacks and to agitated and slowly progressive forms is greater, so that with the greater predisposition at this period an attack occurs and this usually in the form described. One gets the impression, however, that there is something else involved, as in the so-called 'climacterium virile,' a mild form of depression of this type in men appearing at the end of the fifties or at the beginning of the sixties, rarely leading to the asylum but definitely reducing efficiency and the joy of living and usually simulating another disease (arteriosclerosis) but entirely recovering in two or three years. As we do not know the nature of the affective psychoses, we only have researches in heredity to throw any light on the subject. At this time a differentiation is just as impossible as an inner grouping of the cases undoubtedly belonging in a wider classification."

Numerous expressions of opinion from time to time I think warrant the conclusion that the psychiatrists of this country still hold to the involution melancholia concept and feel that it should not be wholly subordinated to manic-depressive insanity. In the Statistical Manual prepared for the use of hospitals for mental diseases and published by the National Committee for Mental Hygiene in conformity with the present classification of the American Psychiatric Association, we find the following expression of views: — "These depressions are probably related to the manic-depressive group; nevertheless the symptoms and the course of the involution cases are sufficiently characteristic to justify us in keeping them apart as special forms of emotional reaction. To be included here are the slowly developing depressions of middle life and later years which come on with worry, insomnia, anxiety and agitation, showing usually the unreality and sensory complex, but little or no evidence of any difficulty in thinking. The tendency is for the course to be a prolonged one. Arteriosclerotic depressions should be excluded. When agitated depressions of the involution period are clearly superimposed on a manic-depressive foundation with previous attacks (depression or excitement), they should for statistical purposes be classed in the manic-depressive group."

The mental mechanisms involved in the development of involution melancholia are explained by White as follows: — (9) "The reason why depressions are so prevalent in later life is due to the failure of repression and of the compensatory devices. Complexes which have been adequately handled during the earlier years begin to create more trouble as the individual passes the height of mental strength — they become relatively stronger because the forces opposed to them become weaker. The depressions of later life then are largely the result of conflicts of which the individual has been the host for many years but which only produce a psychosis upon the failure of repression as he grows older. The melancholia is, therefore, the result of the final recognition of failure. Depressions frequently result at this time of life from the loss by death of a dear friend or relative or other loved object."

Important as it is from various points of view, involution melancholia is not a psychosis which is encountered as frequently as are many others. A review of over seventy thousand first admissions (10) to forty-eight State hospitals in sixteen different States during recent years shows that involution melancholia constituted 2.53 per cent of the total number.

The appearance of schizophrenic episodes during the involution period is a matter which has been discussed for some years. This led to the formulation of the "late catatonia" theory. Kraepelin (5) referred to this subject as follows: — "If the interpretation of the various disease pictures developing in the earliest childhood leads us on to grounds which are at this time quite uncertain, the same may be said of the disorders of the involution period which run a course similar to dementia praecox Here there are on the one hand certain cases which in the light of our present knowledge cannot be separated from the forms developing earlier and which we may therefore designate as genuine 'late catatonias.' Petrén observed twenty-four cases of catatonia occurring after forty, of which six occurred between fifty and fifty-five, one at fifty-eight and one at fifty-nine years of age. Schröder refers to a case which began at fifty-nine. Zweig has reported thirteen cases between thirty and forty as well as five cases over forty, and reaches the conclusion that they are generally similar to those of earlier years, although the prognosis appears to him to be comparatively favorable, — a conclusion which the number of cases observed by no means warrants and which finds no verification in Zoblocka's communications. . . . It cannot, however, be denied that in the involution period particularly we not rarely meet cases the clinical evaluation of which leads to the greatest difficulties. At one time these are disorders with active states of anxious excitement and depressive delusions as well as catatonic symptoms, automatic obedience, inaccessibility, negativism, stereotyped attitudes and movements, terminating comparatively rapidly, sometimes after a temporary improvement, in a profound mental deterioration; sometimes there are paranoid forms. It seems probable to me that we are dealing here in part with disease processes which do not belong to dementia praecox, although a satisfactory differentiation, and particularly a definite conclusion as to individual cases, is scarcely possible at this time. . . . The difficulties referred to here have led Stransky to differentiate certain paranoid disorders of the involution period with catatonic symptoms in women as a special clinical form under the designation 'Dementia Tardiva.' Hallucinations, unstable emotions without a marked emotional dullness, transitory active excitements, unsystematized delusions, indications of catatonic symptoms, characterize the disease picture. The future must determine whether dementia tardiva is a clinical entity or whether, as is more probable, for reasons already given, it must be divided into various groups."

In a later work (11) Kraepelin reverts to this same topic: — "That the involution period favors the appearance of mental disorders is shown by the frequency of melancholias of the manic-depressive type. Many experiences go to show that, although in small numbers, there are psychoses which are peculiar to that period. Unfortunately, the differentiation of these types is at this time impossible. A first group shows a rapidly developing, severe emotional state of anxious excitement with fantastic delusions which are not amenable either to reason or drugs or other therapeutic measures and as a rule terminate shortly in death, autopsy showing, microscopically, a well-defined and widespread destruction of the nervous tissues. Then there are various clinical pictures which show catatonic symptoms (automatic obedience, stereotyped speech and movements, incoherence, inaccessibility, senseless negativism, rigidity and even stupor), now a depression and then an expansive coloring of the mood, as shown by the usually developing delusions. These closely associated groups certainly belong only in part to dementia praecox; various grounds, particularly anatomical, go to show that there are different closely related disorders still undifferentiated. The same may be said of the frequently appearing paranoid psychoses in the involution period. Although many of these are merely forms of dementia praecox or paranoid dementias, that probably does not apply to all."

Probably the same reasons which influenced Kraepelin in the splitting-off of paraphrenia from the dementia praecox led Serko to his delimitation of involution paraphrenia. (12) His conception of this condition is covered in brief in the following quotation from his original contribution on this subject: — "When I speak, therefore, of Involution Paraphrenia as a special disease form, I do not say that this disorder taken as a whole is based on a specific and characteristic disease process or that it is to be looked upon probably as only a variety of a general paraphrenic process. What seems more probable to me is that this psychosis like all others is a characteristic conglomeration of elementary complexes, individual processes, which in their larger number exhibit the characteristics of other disease forms, although in different proportions and other sequences. In saying this, however, I have not said that this disorder does not attain, on these grounds, to the dignity of a genuine disease form." The involution paraphrenia of Serko, like the paraphrenia concept of Kraepelin, has been widely discussed but not generally subscribed to by recent authors.

Of much greater interest is the involution paranoia of Kleist. His reasons for the delimitation of this psychosis are better expressed in his own words: — ([13]) "1. There is a special abnormal constitution which is characterized by an increased self-consciousness, a domineering, obstinate makeup, sensitiveness, irritability and suspiciousness, — the hypoparanoid constitution. 2. In a number of the individuals predisposed by the hypoparanoid constitution, there is at the time of the sexual involution, somewhere between the ages of forty and fifty-two, and probably dependent upon physical changes connected with a lowering of the functional activity of the sexual organs, an exaggeration of the abnormal temperament into an involution paranoia. 3. The characteristic features of involution paranoia are: a change in affectivity in the form of a suspiciousness as well as numerous other shades of expansive depressive affective mixtures; misinterpretations, illusions, falsifications of memory in the direction of the predominating affect; hallucinations (hallucinations of hearing and in one case genuine hypochondriacal sensations) and a peculiar thought disturbance which manifests itself as a combination of inhibition and limitation of thought with a flight of ideas. The delusion formation is the result of the intermingling of several of these elementary disturbances. The diversity of the delusion formation in individual cases, — ideas of persecution with grandiose ideas based on the real or unreal, absurd delusional ideas, fixed or to a certain extent changeable delusions rigidly systematized or without leaving any residuals or appearing in conflicting combinations, — is explained by the varying extent, intensity and form of expression of the elementary disturbances in the picture. 4. The qualitative change in the mental functions develops sometimes gradually and sometimes an acute or subacute exacerbation follows an incipient gradual development of symptoms. In two cases the first repetition of the attack led to a full development of the disease. The height of the disease once reached, that is, from the 48th to the 60th year of life, the mental changes remain essentially stationary. The disease is disproportionately more frequent in women than in men (nine women out of ten cases). 5. According to Kraepelin's latest conception of 'paranoia,' disorders which deserve the designation of paranoia appear before the years of sexual involution and in the form of involution paranoia represent an autochthonous exaggeration of a hypoparanoid constitution. These early paranoias, as well as the acute and periodic paranoias, require a thorough and closer investigation. 6. The hypoparanoid constitution (and the involution paranoia developing from it) belongs with the hypomanic, depressive and circular predispositions to a wider group of abnormal constitutions to which must be assigned various other anomalies of predisposition. One disease, manic-depressive insanity, to which paranoia may be subordinated as well as to the various forms of progressive paralysis, cannot be explained on any other basis."

Seelert ([14]) in discussing the paranoid psychoses of advanced years made the following comment: — "The more I have seen of paranoid psychoses of advanced years the more I am inclined to the opinion that a clinical differentiation between the diseases described as presenile delusions of persecution, involution paranoia, senile delusions of persecution, senile dementia and arteriosclerosis with paranoid delusions, cannot be made and with the differentiations made heretofore, cannot be maintained. All of the observations which were held to be differential diagnostic characteristics by Kraepelin and Kleist are nothing more than immaterial symptomatic variations which are at least as strongly manifested in all psychoses. . . . In view of the appearance of cerebral symptoms of organic origin in almost all these cases and in consideration of the demonstrated abnormal psychic constitution in many of these patients with manifestations in the affective domain, as well as the narrow symptomatological relation between the disease picture of the psychoses and abnormal influence of the endogenous predisposition, it may be assumed that the symptomatology of these paranoid psychoses of advanced years is an endogenous conditioned individual reaction brought about by a slowly progressive organic cerebral process."

White ([9]) in discussing the presenile, senile and arteriosclerotic disorders has so thoroughly and graphically outlined the various conditions described by Kleist, Serko, Albrecht and Seelert that I have thought it wise to include here his striking summarization of their important contributions.

Involution Paranoia of Kleist	**Involution Paraphrenia of Serko**
Beginning. — In close connection in time with the climacterium.	Acute.
Climax. — Years after this.	Chronic progressive.
Occurrence.—Ninety per cent in women; 70 per cent, living alone.	Principally women.
Foundation. — Grows out of the personality, out of a hypoparanoid constitution, and finds expression in exaggerated consciousness of self, desire to dominate, obstinacy, sensitiveness and suspicion.	
Symptoms. — Elementary: Suspicious or expansive depressive mixed effects. Misinterpretations, illusions, falsifications of memory.	*Primary.* — Insane ideas of insult and injury, persecution; secondarily: the demands that go with the overvaluation of self.
2. Peculiar disturbances of thought. Retardation and perseveration flight of ideas (difficulties in performing certain mental tests, restriction of associations with flight of ideas in the free play of thought, loquacity in regard to past experiences).	*Content.* — The sexual factor is never absent (jealousy, trickery with sexual point, sexual threats, insults, rape, indecent assaults, insane ideas with regard to marriage).
Resultants. — Insanity of injury with or without ideas of grandeur in all forms (connected with reality or without any connection whatever with reality, unchanging or varying, systematized or unsystematized).	*Form.* — Trivial trend, commonplace scope, lack of elaboration (two complexes without logical elaboration as the expression of the general narrowness of spirit and whimsicality). Visual phenomena rare. Pseudomemories are often decisive; also phonemes of sexual coloring.
Very great rôle. — Sexual affects (jealousy, fear of sexual insults, indecent conduct).	
Illusions, especially optical, are never absent.	
Hallucinations. — In 50 per cent there is belief in thought-hearing, and the insane ideas take the form of sense presentations.	True hallucinations questionable. On the other hand, loquaciousness and cyclothymic variations.
Course. — Insidious onset; when the climax is reached the curve proceeds at an even level, terminating in chronic invalidism without destruction of consciousness, or dementia.	In the course of years a chronic progressive mental regression in the sense of a reduction of affective interest (absentmindedness in expression, relative inaccessibility, but without schizophrenic features).
Nature.—Autochthonous intensification of the hypoparanoid constitution as result of non-destructive changes in the brain of innersecretory nature, following involution of the generative organs. The somatic endogenous reactive factor outweighs considerably the psychogenic reactive factor. The physiologic or normal change of the personality at advanced age in the direction of obstinacy, etc., is more marked because the individuals have been hypoparanoid during their entire life.	Reflection of the normal psychic peculiarities of the individual in intensified form, in the involutional years.

In the main lines all the cases cited conform to the symptomatology both in course and origin, as given.

Presenile Paraphrenia of Albrecht	Paranoid Psychoses in Advanced Years of Seelert
Beginning. — Somewhat later than the climacterium, forty-five to fifty-five years.	Years after the climacterium, between fifty and seventy-four.
Occurrence. — Two-thirds in women.	Five-sixths women; nearly all women who have lived alone in want and in bad social conditions. From youth on, abnormally lively affectivity (extreme feeling of self-importance, tendency to dominate, suspicion, incompatibility, excitability), with good intellectual endowment.
Symptoms. — Suspicion. Misinterpretations. Ideas of reference and persecution, often in the sense of tricks, mocking, poisoning and with sexual content (paramour, incest, impregnation, etc.). Secondary delusions of grandeur. After months hallucinations of sense in the direction of the insanity, which, becoming more numerous, are finally the principal symptom.	Insane ideas of being insulted and injured through exhalations, smoke, powder, persecutions; numerous bodily disturbances, sensations of taste and smell; hallucinations of hearing (telephone, crackling noises), never hallucinations of sight. Insanity of interpretation. References to self, falsifications of memory, retrospective misinterpretations. Isolated delusions of grandeur.
No flight of ideas. Good humored excitability not specially injured. Course: chronic condition of insanity with hallucinations of sense. Even after years no considerable mental weakness.	*Material.* — Like the subjective perceptions of organic brain disease. *Form.* — Slight systematization. Endogenously conditioned individual reactions to an organic cerebral arteriosclerotic process, of slow course, and proved to have actually existed in two-thirds of the cases (brain involution). "Identical with presenile insanity of injury, senile insanity of persecution, involution paranoia." Sharply distinguished from paraphrenia, but with transitions to, and connections with, melancholia and the characteristic features of manic-depressive insanity.
Nature. — "Identical with involution paranoia, perhaps only distinguished from Kraepelin's paraphrenia in involutional years for practical reasons, being a subform thereof."	Insidious development with only occasional variations in emotions. Uniformity of picture with transitions to intellectual mnesic defective conditions of light form.

This covers very briefly a review of the more important contributions to literature descriptive of the various types of psychoses embraced in the involution group. There is some question as to whether or not the presenile condition known as

Alzheimer's disease should be included here. This is described by Kraepelin as "the slow development of an unusually severe mental deterioration with vague manifestations of an organic brain disease." (4) In the course of a few years there is a gradual mental dilapidation, memory failure, poverty of thought, and confusion or clouding. Eventually a general restlessness follows; the patients sing and laugh, run around, and become quite talkative. Speech disturbances appear sooner or later, ending in a senseless jargon, and writing often becomes impossible. Aphasic disorders sometimes develop, with paraphasia or apraxia. Physically there is a general weakness, uncertain gait, and sometimes epileptiform attacks. At autopsy, senile plaques or "drusen" are found in the cortex and many of the nerve cells are destroyed. The interesting thing about this condition is that it usually appears in the neighborhood of the fortieth year and may be looked upon, as Kraepelin says, as a "senium praecox," although its significance is somewhat doubtful. There is a question as to how much of a factor arteriosclerosis is in the etiology of Alzheimer's disease.

II.

For the purpose of determining as far as possible the part played by the processes of involution in the production of mental disorders, a review has been made of a series of 2534 consecutive first admissions to the Boston State Hospital. Of this number, 892, or 35.2 per cent, were found to have had a definite onset between the ages of 40 and 60. The following table will show the distribution of these psychoses among the various diagnostic groups: —

Psychosis	Male	Female	Total	Percentage
Traumatic	8	1	9	1.01
Senile	13	27	40	4.48
With Cerebral Arteriosclerosis	57	45	102	11.44
General Paralysis	132	38	170	19.06
With Cerebral Syphilis	11	6	17	1.91
With Huntington's Chorea	1	2	3	.33
With Brain Tumor	3	2	5	.56
With Other Brain or Nervous Diseases	8	9	17	1.91
Alcoholic Psychoses	74	32	106	11.88
Due to Drugs or other Exogenous Toxins	2	3	5	.56
With Pellagra	0	2	2	.22
With Other Somatic Diseases	10	18	28	3.14
Manic-Depressive	27	59	86	9.64
Involution Melancholia	24	32	56	6.28
Dementia Praecox	21	63	84	9.42
Paranoia or Paranoid Condition	17	78	95	10.65
Epileptic	7	6	13	1.45
Psychoneuroses and Neuroses	4	3	7	.79
With Psychopathic Personality	1	3	4	.45
With Mental Deficiency	4	6	10	1.12
Undiagnosed Psychoses	13	15	28	3.14
Without Psychosis	1	3	4	.45
Undiagnosed	1	–	1	.11
Total	439	453	892	100.00

An analysis of this tabulation shows several very interesting things. There is very little discrepancy, for instance, between the percentage of cases (35.2) showing a definite onset between the ages of 40 and 60 and the percentage of first admissions (32 or more) usually reported during that same period of life. It will be noted that only 4.48 per cent of senile cases were shown. This is quite in keeping with the statistics of the last studies of mental diseases made by the Federal Census of 1923, which shows that few senile psychoses develop under 55 years of age. It is also interesting to note that, eliminating the alcoholic psychoses and the disorders due to arteriosclerosis and syphilis, the largest percentage of psychoses reported is included under the heading of paranoid conditions. This must certainly be looked upon as constituting substantial evidence in support of the contentions of Kleist. The percentage of manic-depressive cases is, of course, much smaller during these two decades and the dementia praecox rate is correspondingly low. The percentage of involution melancholia is consistent again with the Census Bureau's findings in a study of the institutions of this country, which shows that the highest rate among males occurs in the age group between 55 and 59 years and among females in cities in the group between 50 and 54 years and in rural districts between 55 and 59 years.

In an effort to determine the influence of the processes of involution in bringing about these psychoses, every care was taken to eliminate from the series of cases studied all of those which might be definitely attributable in their etiology to alcoholism, senility or arteriosclerosis. To avoid the possibility of any difference of opinion on this subject, many cases were left out of consideration which probably in all fairness should have been included. The preservation of personality, the general physical condition, the absence of any evidence of mental impairment, etc., in all of these cases is such, I think, as to definitely exclude senility as .a factor. Where arteriosclerosis appears in the history it is to such a negligible degree as to warrant little if any consideration. Unfortunately, information relating to the family history of these cases was so uncertain and unreliable that it has not been made a part of this study.

III

PARANOID CONDITIONS

As has been shown, 95, or 10.65 per cent, of the 892 cases admitted with a definite onset of psychosis between the ages of 40 and 60 were diagnosed as paranoid conditions. Eliminating all of the cases in which we have alcoholic, arteriosclerotic or other complications, there is a group of only four male cases showing paranoid conditions, probably of the involution type. One developed at the age of 40, two at 45, and one at 56. Three of these men had used alcohol moderately in the past and the other showed a slight arteriosclerotic involvement which can almost certainly be disregarded. Three were first attacks and three made good recoveries. These cases may be summarized briefly as follows: —

Case No. 1. N. E. Male.
Occupation: Peddler.
Family History: Negative as far as known.
Mental Makeup: Not known.
Age on Admission: 45.
Previous Attacks: Had a mild attack of depression 20 years ago, which lasted for a few weeks.
Age at Onset: 45.
Psychosis: Began rather suddenly a few months prior to admission, when he became suspicious of his relatives and insisted that they were getting information from him about imaginary enemies that he suspected were trying to harm him. Told the landlord that someone was shooting electricity into his arm, causing him to have pain in the head. Seemed to be downhearted and apprehensive. Was evasive. Has been irritable and restless in the hospital but shows no depression. Has auditory hallucinations. Hears people outside the building calling him names and telling him to go home. They talk about his family affairs. Someone said that electricity was being put on him. Hears a woman's voice at night some times. Does not know who she is. Speaks about a dictaphone. Says "dictaphone" means: "Phone means to talk, and you dictate." Thinks he is being watched. Correctly oriented for time, place and person. Has an excellent grasp on his surroundings. Shows no memory defect. Insists that he is perfectly well and should be released. Has for some time been in the habit of stuffing cloth and paper in his ears, but will give no reason for it.

Admits having used alcohol, but will not say to what extent. Relatives think he has used very little. Thinks the other patients are spying on his actions. Rather threatening in his attitude towards the physicians and attendants. Abuses his children when they visit him and says that it is through their efforts that he is being kept here. Objects to answering questions. Is quarrelsome, antagonistic and resistive. Is still in the hospital after four years and nine months.

Physical Condition: Good.

Alcohol: Moderate use as far as can be determined.

Arteriosclerosis: No evidence of arteriosclerosis.

Diagnosis: Paranoid Condition developing in a man of 45 years of age, and characterized by hallucinations, and delusions of persecution, and persisting after nearly five years.

Case No. 2. A. M. K. Male.

Occupation: Florist.

Family History: Negative.

Mental Makeup: Quiet man. Fond of reading. Enjoyed the moving pictures. Domestic in his habits. Normal as far as ascertainable.

Age on Admission: 56.

Previous Attacks: None.

Age at Onset: 56.

Psychosis: Five weeks before admission, left the position which he had held for 21 years. Thought he was being watched and chased by automobiles. Believed that poison was being put in his food. Memory for recent and remote past good. No emotional disturbance. Discharged from the hospital after 15 months residence. Said all his previous troubles had been imaginary. Insight appeared to be partial. Did well after leaving the hospital.

Physical Condition: Pupils slightly irregular, but react well. Slight arcus senilis. Neurological examination otherwise negative.

Alcohol: Apparently not a factor.

Arteriosclerosis: Slight sclerosis of radial vessels. No evidences of arteriosclerosis otherwise.

Diagnosis: Paranoid Condition. Probably involution type.

Case No. 3. J. H. T. Male.

Occupation: Machinist.

Family History: Maternal grandfather insanely jealous. Took his wife to his place of business and locked her up. Maternal aunt had two daughters insane; one committed suicide. Father and mother apparently normal.

Mental Makeup: Regarded as an intelligent man. Always had a poor memory. Thought to be somewhat lazy. A good mixer. In Norway, before coming to this country, quiet and seclusive. Always irritable, despondent, mistrustful and suspicious.

Age on Admission: 45.

Previous Attacks: None.

Age at Onset: 45.

Psychosis: Active psychosis apparently of recent origin. No emotional disturbance. Coherent and relevant. Paranoid trend of ideas directed against his wife, and evidently extending over a number of years, but leading to no active disturbance until shortly prior to his admission. Had always been suspicious of his wife and at times thought she had been unfaithful. Orientation good. No memory disturbance. Mental grasp good. Judgment with regard to relations with his wife somewhat impaired. Left the hospital after a residence of 13 months and has gotten along well since.

Physical Condition: Good.

Alcohol: Some years ago, but not recently.

Arteriosclerosis: Slight thickening of radials. No other evidence of arteriosclerosis.

Diagnosis: Paranoid Condition.

Case No. 4. T. L. Male.
Occupation: Janitor.
Family History: Negative as far as known.
Mental Makeup: Quiet and reticent. Hard to understand. Never cheerful or lively. Not sociable as a rule. Very exact as to his daily routine. Close with money.
Age on Admission: 41.
Previous Attacks: None.
Age at Onset: 40.
Psychosis: About one year before admission, separated from his wife. Said that she was lazy and did not keep house properly. Was arrested for non-support. Became somewhat depressed as a result. Failed in examination for a second-class engineer's license three years before admission. Thought this was due to persecution. Wrote letters to the Governor, etc. Visited the Governor and Superior Court Judge. Says the gang had him discharged from his position as janitor. Thinks they have put poison in his food. No apparent hallucinations. No memory defect. One woman moved into the house where he was living and had a special telephone installed on his account. People all looked at him and laughed sneeringly. Discharged after two years residence and has been doing well outside since.
Physical Condition: Good.
Alcohol: Has used some alcohol at times, but it does not seem to have been a factor in his psychosis.
Arteriosclerosis: None evident.
Diagnosis: Paranoid Condition.

Of the seventy-eight women diagnosed as paranoid conditions, fifty-five cases were eliminated from consideration owing to varying complicating factors. Twenty-three women showed paranoid conditions which would seem to be fairly attributable to the processes of involution. In none of these cases was either alcohol or arteriosclerosis looked upon as an etiological factor. All were first attacks. Three cases developed at the age of 40, two at 42, one at 43, four at 44, one at 45, one at 46, three at 47, one at 48, one at 49, two at 50, one at 53, one at 54, one at 55 and one at 56. A study of the makeup of these individuals shows that one was of a cyclothymic temperament, three schizoid, four hypoparanoid, and nine normal as far as known. In six cases no information was available. Six cases developed before the beginning of the menopause, five during that period and seven after its completion. Of the latter, one developed a few months afterwards, one 2 years, two 3 years, one 10 years and two 13 years afterwards. Of these twenty-three cases, one could be spoken of as recovered, 6 were improved to such an extent as to enable them to get along outside of the hospital, and 16 showed no improvement after persisting in some instances for many years. One was very clearly an induced psychosis. These cases, summarized briefly, were as follows: —

Case No. 5. M. D. Female.
Occupation: None.
Family History: Negative as far as known.
Mental Makeup: Nervous, excitable, very social, good hostess and an excellent entertainer. Had great powers of mimicry. Said to have been lively and active, but would procrastinate. Had occasional blue spells and was inclined to be pessimistic. Was sympathetic and affectionate, but very domineering. Always wanted her own way, and had it. Was spoken of as a spoiled child. Said to have had plenty of power but never got anywhere. Worried and made a great deal of little things. It is said that she would talk, talk, talk. Fond of music, did some china painting and some needlework. Has been described as touchy, faultfinding and over-sensitive. Is much concerned about her health.
Age on Admission: 53.
Previous Attacks: None.
Age at Onset: 53.

Psychosis: At the age of 46 patient lost all her money and brooded over this for some time. Two months prior to admission heard voices and had hallucinations of sight. Everywhere she boarded thought they were running secret stills. Suspected that there was electricity in the walls and poison in her medicine. Feared that the fumes of the stills would suffocate her. Moved from house to house to escape these noises. Thinks there is a secret society called the Y. M. D. which is at the bottom of her troubles. This organization she says is concerned principally in manufacturing booze. Accused various people of immorality. Oriented for time, place and person. Shows no defect of memory. Did so well that she was allowed to leave the hospital after two years, but she began to complain again of immorality of the neighbors and got into difficulty. Had to change her residence again. Finally discharged, improved, after two years and two months.

Physical Condition: Good.

Alcohol: Very little.

Arteriosclerosis: Moderate.

Diagnosis: Paranoid Condition in a woman of 53, thirteen years after the menopause. Considerable improvement shown after two years.

Case No. 6. M. E. C. Female.

Occupation: Factory worker.

Family History: Negative as far as known. Sister suffering from a similar mental condition.

Mental Makeup: Patient said that she was happy and good-natured enough if left alone. Admitted, however, that she had quite a temper. She made no friends but had plenty of acquaintances, and kept to herself. Was very devoted to her sister G. and needed no other companion or company. They were seldom apart and then only by force of circumstances. All they did was to stay at home and mind their own business. She didn't care much for the theatre. She liked to go to the movies if she could go with her sister. They lived together, ate and slept together. No other information available.

Age on Admission: 49.

Previous Attacks: None.

Age at Onset: 47.

Psychosis: The patient was always dominated by her sister G. Two years prior to admission they were both working in Connecticut. G. told her that she had been insulted, was annoyed by people and heard unpleasant talk. They gave up their positions and went to another place to live. The couple that had been following G. soon appeared at this place. They threatened to take the lives of the two sisters. They had previously murdered a girl in Connecticut by smothering her. The sister went to the Police Station about this man and his wife. The result of this visit was that she went to the Psychopathic Hospital and later to Danvers. After this the sisters lived in East Boston and worked in a brush factory. They were disturbed by electricity, G.'s body being perforated by pinholes. They wrote to Washington about this and complained to the Radio Commission. As a result of this the police came and took them to the Psychopathic Hospital. On admission M. thinks that the persecution of her sister began four years prior to admission. G. was threatened and persecuted first. She had no ideas of this sort until after her sister had them, and at first told G. that there was nothing in it and that she should not worry. Then she began to believe in these things herself and felt very sure that her sister was being annoyed by bad people. She never saw anyone annoy her sister nor actually heard them herself. Was perfectly oriented as to time, place and person and seemed to have no memory defect. Knows comparatively little about current events and is very self-centred, talking of nothing but her own troubles. Her sister G. is about one year older than she is. Patient vigorously denies that there is anything wrong with her and demands her release. Would like to go out and look for a position. Is inclined to be irritable and attempted to dictate to the other patients, which led to difficulties with them. Was allowed parole of the grounds and went down town to consult the Legal Aid Society. Was allowed to assist in the work at the Nurses' Home and escaped from the hospital after a residence of three years and four months.

Physical Condition: Good.

Alcohol: None.

Arteriosclerosis: None.

Diagnosis: Paranoid psychosis developing in a woman of 47. "Induced" psychosis acquired from her sister, who was one year older and had shown symptoms one year previously. No change shown in her condition after a duration of over five years. Nothing has been heard of her since the time of her escape.

Case No. 7. V. M. H. Female.

Occupation: Shoe worker.

Family History: Negative as far as known.

Mental Makeup: Said that she has always been an eccentric person, living by herself, and hard to get along with. Has always been a poor business woman and has been looked upon as quite secretive.

Age on Admission: 49.

Previous Attacks: None.

Age at Onset: 49.

Psychosis: Several months before admission patient, who was working at the Hood Rubber Company, developed the idea that other employees were making remarks about her. The machine that she was working on would say that she was a "no-good old maid." If she was tired it would say "She must have been out late last night." People made remarks about her when she rode on the trolley cars, and would say, for instance, "She ought to be arrested." Thinks the other girls made fun of her because she was an old maid and a Protestant. They played tricks on her and laughed at her when she tried to get a position as stenographer. Finally she was afraid to go out on the streets because people talked about her. Menopause completed about three years before admission. Correctly oriented as to time, place and person and shows no memory difficulties. School knowledge well retained. Did very well in the hospital and was allowed to go out after about five months. It is said that she has been doing very well since.

Physical Condition: Good.

Alcohol: None.

Arteriosclerosis: Arcus senilis. No apparent peripheral sclerosis. Blood pressure 146.

Diagnosis: Paranoid Condition developing in a woman of 49. Patient lost sight of after one year and five months, at which time she was doing well outside the hospital.

Case No. 8. E. S. Female.

Occupation: Housework.

Family History: Negative as far as known.

Mental Makeup: Said to have been a quiet, cheerful woman and never quarrelsome. No other information available.

Age on Admission: 50.

Previous Attacks: None.

Age at Onset: 45.

Psychosis: About two years before admission the children began to notice that the patient would get up at night and yell out of the windows, believing that people next door were going to injure her. She heard voices that told her to do various things such as to make her bed, etc., although she disregarded these orders. Asked her relatives not to come to see her. Has accused the neighbors of annoying her. There has been a great deal of talk in the neighborhood because of this. Is said to have made the remark, "I want to turn on the gas." One daughter says that her mother began five years ago to express the delusion that her husband was trying to poison her and that her two sisters were trying to get her out of the way and did not want her to live. She has been unfriendly to these sisters since. She has turned against nearly all of her children. Thinks she received messages by telepathy through the air. Usually hears these about two or three o'clock in the morning. Has been irritable at times. On admission said that "those radio things they would seem to know what I was going to do." Objected to answering questions, but said that someone thought that they could get some benefit from working on her brain; that people were trying to make her believe in spirits. Was correctly oriented as to time and place. Showed no memory defect. A person of very limited education. As a rule suspicious, antagonistic and irritable, refusing to answer questions. Continued to hear voices while in the hospital and still thinks that someone is putting electricity on her and that she is spoken to by wireless and radio. Says she passed through the menopause several years ago. Was allowed to go home after nine months. Still heard the radio after leaving the hospital, but managed to get along at home.

Physical Condition: Good.
Alcohol: None.
Arteriosclerosis: None noted.
Diagnosis: Paranoid Condition developing in a woman of 45, about the time of the menopause, and persisting for at least six years without any marked change.

Case No. 9. E. L. Female.
Occupation: Domestic.
Family History: Negative as far as known.
Mental Makeup: No accurate information available.
Age on Admission: 54.
Previous Attacks: None.
Age at Onset: 54
Psychosis: In the last few months felt that she was being mistreated by an employer for whom she had worked for 14 years. Was oriented as to time, place and person. Seemed to have good memory. Was excitable and suspicious on admission. Says she had been constantly nagged and criticized by her employer who was influenced against her by a daughter. Claimed that the food given her was only fit for pigs. Very faultfinding. Insists that she is bitten by bedbugs. Feels that she is far superior to other patients in the hospital, and has a haughty manner. Shows a marked paranoid trend against her former employer. Was discharged after two years and two months, at which time she brought suit against her employer for $15,000 for illegal imprisonment and for illegal commitment. At this time she insisted that her employer had locked her in a room. Said she had been a maid to a Russian princess, had been acquainted with Queen Victoria and had seen the Kimberley mine.
Pysical Condition: Good.
Alcohol: None.
Arteriosclerosis: Slight.
Diagnosis: Paranoid Condition developing in a woman of 54 in a few months after the cessation of menstruation, and continuing unimproved after three and one-half years.

Case No. 10. A. N. Female.
Occupation: Saleswoman.
Family History: Negative as far as can be determined.
Mental Makeup: Patient was evidently of a cyclothymic makeup. She was either way up or way down, being unusually pessimistic or unduly cheerful. She was sociable, talkative, inquisitive and interested in the neighbors' doings.
Age on Admission: 55.
Previous Attacks: None.
Age at Onset 47.
Psychosis: About eight years before admission, patient began to become suspicious of people. Said that boys spat in her face. During the last three years insisted that people were watching her, following her and talking about her.

Thinks that the Catholics were "doing the country, doing everything and doing her." Menopause occurred at the age of 52. Thought the police would involve her in difficulties and that they caused elderly men on the street to look at her and annoy her. She has been prevented in some way from getting positions. Correctly oriented for time, place and person. Recent and remote memory clear. Judgment and insight poor. Thinks the police are all plotting against her now, although a few young boys began it. Went to the police station three years ago and complained of the head man, who did nothing. Says the Christian Science people are backing her and helping her out of her difficulties. On the ward, stated that she was working for the Government, although she intimated that this was a great secret. Appeared to be very suspicious of others. Writes many letters asking people to take her out. Says all of the elevated people know about her affairs. She was taken out of her home without their knowledge. Demands her release constantly. Irritable and restless. Still in the hospital after one year and eight months.

Physical Condition: Good.

Alcohol: None.

Arteriosclerosis: No increase in arterial tension. Peripheral vessels apparently in good condition although there is slightly increased blood pressure.

Diagnosis: Paranoid Condition developing in a woman of 47, several years before the menopause and showing no marked change after nearly ten years.

Case No. 11. A. K. Female.

Occupation: Shirtmaker.

Family History: Negative as far as known.

Mental Makeup: No information available.

Age on Admission: 43.

Previous Attacks: None.

Age at Onset: 43.

Psychosis: While employed at sewing shirts several months before admission, was annoyed very much by other girls, who were jealous of her on account of her proficiency. They told stories about her and made threats against her, saying that they would fix her. All of them were down on her. Consulted the police about this, without any help, They told her that there was nothing to it and sent her to the Psychopathic Hospital. Memory and orientation good. Has been very agreeable since her admission to the hospital, although she claims that she has been unjustly accused of various things. Is very verbose, and has shown a decided paranoid trend relating to those about her. Says she was brought here wrongly. Is irritable at times. Seems to evade direct answers to questions. Was allowed to go out on visit after seven months and has managed to get along very well in the positions obtained by her. Artificial menopause induced by operation thirteen years prior to admission.

Physical Condition: Good.

Alcohol: None.

Arteriosclerosis: None.

Diagnosis: Paranoid Condition developing in a woman of 43 and improving to such an extent after seven months as to enable her to resume her place in the community.

Case No. 12. A. S. C. Female.

Occupation: Housekeeper.

Family History: Negative as far as known.

Mental Makeup: Patient is by nature sociable, jolly, fond of activity of all sorts, social and industrial. She likes music, theatre and dancing. Has been athletic, enjoying swimming particularly. Has always been popular and efficient. She is not suspicious by nature. Never worried. Home life very happy. Anxious to have her boys keep company with girls and have them develop homes of their own.

Age on Admission: 56.

Previous Attacks: None.

Age at Onset. 48.

Psychosis: Eight years previous to admission a hot water bottle, thrown out of a fifth story window, struck her on the side of the face. She was knocked down but not unconscious. Claims that after this she felt rather weak and dropped things from her right hand. Says she was three years getting over this injury; was unable to work for ten days. Brought a law suit and recovered to the extent of $500. Since that time she has been peculiar. Spoke of someone haunting her. Occasionally heard people hovering about the house. These things only crop up occasionally and do not interfere with her work. Now shuns her friends and has crying spells. Is quite irritable. There have been three different families in the same house within one year. Claimed that all of these were making home-brew so that she could smell it. Winds a cloth around her face to prevent her being injured. Has a rubber sheet on her bed and an iron plate under her head at night. At night she breathes through a long folded pasteboard tube. Thinks poisons come up through the floor. Speaks occasionally of the league. Correctly oriented in all spheres. Shows an excellent memory. No insight or judgment. Patient has been doing very well in the hospital and denies any hallucinations or persecutions. Menopause completed at the age of 52. After nine months in the hospital, was allowed to go home, and has gotten along there without any difficulties as far as can be ascertained.

Physical Condition: Good.

Alcohol: Used very moderately.

Arteriosclerosis: Very slight, if any.

Diagnosis: Paranoid Condition developing in a woman of 48 after a minor head injury, which probably is a coincidence and not a cause of her psychosis. This paranoid condition persisted after approximately nine years, although the patient has been able to return to her own home.

Case No. 13. B. B. Female.

Occupation: Housework.

Family History: Negative as far as known.

Mental Makeup: Has always been nervous, cranky and argumentative since her husband has known her. Quite a talker but could never get along well with people. Seldom able to stay friendly with anyone for more than one day; partly due to her temper, but more to her argumentativeness. Has been growing steadily more difficult in her social adjustments. Always worried over details. Religion has been over-zealous; living up to the requirements of her church before any other duty. Religious interests have been increasing of late.

Age on Admission: 51.

Previous Attacks: None.

Age at Onset: Probably 44.

Psychosis: Husband says actual mental symptoms have been present two years. During that time she has heard a dictagraph in the walls of the house. Thought people could hear everything she said. Says people talked about her in the streets. Priests preached a sermon on one of her confessions. Has seen pictures of the saints who talked to her. Lately has been slack in her housekeeping. Thought her friends were trying to take her religion away from her. Has quarreled with her neighbors. Annoyed her daughter so much that she had to leave home. Correctly oriented in all spheres. Seems to have an excellent memory. No insight into her condition. Says now she began to hear statements made in and outside of the house during the war. In 1914 saw a vision of St. Joseph leading an army. Two weeks after this the World War started. Has had no such ideas lately. Thinks the dictaphones were put in her house by Germans. Was allowed to go home after five months. Seemed to think the hospital had something to do with breaking up her home.

Physical Condition: Good.

Alcohol: None.

Arteriosclerosis: No arteriosclerosis apparent.

Diagnosis: Paranoid Condition developing in a woman somewhere around the age of 44 and persisting after seven years.

Case No. 14. E. B. C. Female.
Occupation: Housewife.
Family History: One brother in a State hospital in Maine. His daughter was also insane. Family history otherwise negative.
Mental Makeup: Patient is said to have had a quick temper but not a very violent temper. Has, however, always been of a jealous disposition and was jealous of both of her husbands. Not subject to blue spells or periods of excitement. Not self-accusatory. Did not care very much for social contacts. Preferred her home.
Age on Admission: 55.
Previous Attacks: None.
Age at Onset: 55.
Psychosis: Ten years ago became interested in Christian Science. Several months before admission thought that a man who roomed in her house was being attentive to a niece, and thought that he was exerting a hypnotic influence on herself. Was jealous of her niece. Consulted a Christian Science practitioner about this man and later tried to get information on the subject from a ouija board. Derived no help from either of these sources. Many things the ouija board told her were false. Stayed awake sometimes all night operating the ouija board. This made her nervous. Finally she lost her faith in it and destroyed it; then bought another one. Says spirits have been watching her movements. Gets messages in various ways. Denies ever having heard distinct voices. Also denies hallucinations. Once, however, she thought she saw shadows of Indians passing by on the wall. An Indian had been her guide in a spiritualistic seance. Has vague somatic sensations which she cannot describe. Attention is poor. No retardation or confusion. All psychomotor activities decreased. Undoubtedly has hallucinations of hearing and thinks she is being persecuted. Took up Christian Science on account of nervous dyspepsia. Received communications of various kinds in the hospital. These came from the spirit world. Menopause completed at the age of 45. Oriented as to time, place and person. Seemed to have no memory difficulties. Did so well at the hospital that she was allowed to go out after three months. Nothing has been heard of her since.
Physical Condition: Good.
Alcohol: None.
Arteriosclerosis: None.
Diagnosis: Paranoid Condition developing in a woman at 55 and lasting over six months, since which time we have no knowledge of her.

Case No. 15. N. M. F. Female.
Occupation: School teacher.
Family History: Negative as far as known, except that father is alcoholic.
Mental Makeup: Sister says that the patient hardly ever talked. It was noticed that she had been nervous of late years because she has talked so much more than usual. As a girl was quiet and studious, over-reserved, and did not give her confidence to anyone. Had no desire to go out socially. Rarely went about with young men, although she was not shy in their presence. Was always ambitious, very studious, attended good concerts and lectures. Was always interested in self-improvement.
Age on Admission: 51.
Previous Attacks: None.
Age at Onset: 44.
Psychosis: Apparently has had a loosely constructed system of delusions which dates back for at least seven years. She noticed then that at the school where she was teaching people grew more cold and distant, and thought that they did not like her because she did not mingle with them socially. Two years later, she was told that her services were not satisfactory. She soon reached

the conclusion that this was due to a league entered into by the masters and teachers, who wished to get rid of her and got pleasure out of annoying her. Went with her sister to a cottage to spend the summer and noticed that automobiles that passed the house made more gas than was necessary; probably did this to annoy her. Objected to the Chief of Police, without results. Remembered then that there were odors in the school-house. Passing through the menopause at the time of admission. Insists that she should not be in the hospital and is not here legally. Occasionally becomes abusive in her language. Thinks that some of the patients here talk about her, and that they have reported the conversation which she had with the selectmen when she complained about annoyance at the summer resort. Some one has fixed the air so that it presses down in a certain way on her head and causes a pain. Says that something which she breathes has prevented her intestines from working. Occasionally her fingers get numb. Smells odors here at times. Not as strong as she was formerly and believes that these influences have broken her down. Allowed to go out on a visit six months after admission and is said to be getting along satisfactorily since.

Physical Condition: Good.

Alcohol: None.

Arteriosclerosis: No evidence of arteriosclerosis.

Diagnosis: Paranoid Condition developing in a woman of 44, and persisting after seven and one-half years without any marked change.

Case No. 16. E. T. L. Female.

Occupation: None.

Family History: Negative as far as known.

Mental Makeup: Quite an active person. Rather intellectual. Inclined to read a great deal. Has led a rather secluded life on account of deafness, although she has been a rather secretive person, rather erratic, and never told her family much about her affairs.

Age on Admission: 52.

Previous Attacks: None.

Age at Onset: 47.

Psychosis: About the time of the menopause, five years before admission, had a brief period of excitement in which she thought people were spying on her and looking through the keyhole. Has had similar episodes since, and accused different persons of persecution of various kinds. Shortly before admission developed the idea that a chauffeur in the house she lived in was talking about her. Other persons there said that the patient had been in the habit of talking to herself during the last two years and acted as though she were listening to voices and answering them. Asked her brother not to come into the house as everything was poisoned there, and said, "The dirty beast has poisoned my room." Admitted hearing voices. On going into her room, found everything covered with newspapers to keep the poison out. Patient had a revolver and a poker with which to defend herself. Was also wearing rubber gloves to insulate herself so that she would not be poisoned. Stuck pieces of paper up her nose to prevent the gas from getting into her system. At the hospital said that the chauffeur already referred to had tried to look in her keyhole and filled her room with sulphurous fumes, wishing to force his attention upon her. Was correctly oriented as to time, place and person. Memory was unusually keen and accurate. Did very well at the hospital, but was firmly convinced that the ideas expressed by her before coming to the hospital were not imaginary. Was allowed to leave the hospital four months after admission and has managed to get along fairly well since that time.

Physical Condition: Good.

Alcohol: None.

Arteriosclerosis: Pupils somewhat irregular. No peripheral sclerosis. Blood pressure, 148.

Diagnosis: Paranoid Condition developing in a woman of 47 and continuing for over five years, although she is able to get along outside of the hospital after a few months residence.

Case No. 17. M. M. Female.

Occupation: Domestic.

Family History: Negative as far as known.

Mental Makeup: Said to have been friendly, sociable and fairly agreeable. Fond of dress and quite particular as to her appearance. Was always rather irritable and quick-tempered. Said to have had a roving disposition and was not content to remain in any one place, although always liked by her employers.

Age on Admission: 45.

Previous Attacks: None.

Age at Onset: 40.

Psychosis: Has shown a gradual change since the menopause, five years ago, although symptoms have been more marked during the last two years. Has lost interest in religious matters, which meant a great deal to her previously. Feels an antagonism to all priests and representatives of the church. There has been an increasing tendency to keep to herself and to avoid other people. Has grown careless in appearance and lost interest in dress. Has become steadily more distrustful and suspicious and has felt that she was talked about. During the last two years has believed that people were in league against her. This conspiracy includes neighbors, relatives and acquaintances both living and dead. These people she thinks all receive a certain money percentage for their activities, although the source of that payment was unknown to her. Has threatened to kill some of her persecutors. Threatened to shoot her brother when he advised her to go to the hospital. Thinks persecutors influence and control her. Has slept on a lounge without undressing, for fear her enemies would choke and torture her during the night. Heard a police officer make the following statement: "32 and 47 are doing it." Thinks this refers to the number of the residence of two people that she knows. Says a priest has been preaching about her, although her name was not mentioned directly. Says that $18 worth of feathers were cut off of her hat and believes that this is a part of the persecution. Thought she could collect $500 damages for her injuries. Soon found that her attorney was in league with the other people of the church against her. Thinks the Catholic Center was the cause of the cost of living going up so high. People laughed and whispered about her on the streets and say that she is proud. Was oriented correctly as to time, place and person and her memory was excellent. She has shown no incoherence at any time. Has been irritable and suspicious since admission to the hospital and believes that employees and patients here talk about her and perhaps are connected with her persecutors outside. Transferred to another hospital after a residence of one month.

Physical Condition: Good.

Alcohol: None.

Arteriosclerosis: No evidences of peripheral vascular involvement. Blood pressure 148.

Diagnosis: Paranoid Condition developing in a woman of 40 at the time of the menopause and continuing after four years and nine months.

Case No. 18. B. C. Female.

Occupation: Housewife.

Family History: Negative as far as known.

Mental Makeup: Has always been rather quiet, making few friends. Otherwise negative.

Age on Admission: 45.

Previous Attacks: None.

Age at Onset: 44.

Psychosis: Began to nag her husband about a year before admission. Nothing suited her. Patient talked incessantly. Became absentminded four or five weeks before admission. Told the family that she heard voices say that they were going to put her out of the house. Also heard a man upstairs talking. This man circulated stories about her and talked about her church. Various people said evil things. About three days before admission, heard a telephone outside of the window. The Cardinal telephoned over three minutes to her, from Rome. Memory unimpaired. General imformation meagre, due probably to education. Patient has shown hallucinations from time to time, while in the hospital, and is somewhat inclined to be quarrelsome and suspicious of others. Says other people annoy her. At times becomes angry and is occasionally noisy. Talks a good deal to herself. Condition stationary after three and one-half years.

Physical Condition: Good.

Alcohol: Not shown in history.

Arteriosclerosis: No evidence of arteriosclerotic complications.

Diagnosis: Paranoid Condition developing in a woman of 44 a few months prior to admission and continuing after three and one-half years.

Case No. 19. F. A. Female.

Occupation: Dressmaker.

Family History: Father died at 58 of apoplexy. Mother died in the Boston State Hospital at 83.

Mental Makeup: Not known.

Age on Admission: 55.

Previous Attacks: None.

Age at Onset: About 50.

Psychosis: Five years before admission, as a result of "doing all the work and caring for her mother," developed delusions of persecution and hallucinations of sight, hearing and smell. All of her delusional ideas have a sex coloring. Thought men photographed her nude body. Said another man had taken her out riding while she was nude. Thought the Clerk of the Court of Jamaica Plain stole all of her underwear and gave it to a motion picture actress. Kept her doors and windows barricaded for some time so that no one could get into her room. Said to have slept in the daytime and worked nights. Thought she was persecuted by various people Thinks poison was put in her food at times. Says her troubles date back to the time when she went to a doctor for treatment, six or seven years before her admission. Thinks an osteopath ruined her back and injured her leg. Her silverware, linen, and various other personal belongings were stolen. Thinks her sister and her sister's husband have mistreated her. Says a female doctor gave her dope pills. Memory good; well oriented; but shows no insight or judgment. Very suspicious, irritable, shows no incoherence in thought or expression. Apparently hallucinated. Quarrels occasionally with other patients. Is quite irritable. Is very sarcastic and faultfinding and writes complaining letters. Shows no change of any consequence after a hospital residence of four years and six months.

Physical Condition: Fair.

Alcohol: None.

Arteriosclerosis: Pupils irregular and unequal. React sluggishly. Fine tremors of the tongue and lips. Blood pressure 142. Some peripheral sclerosis.

Diagnosis: Paranoid Condition developing in a woman of about 50, about the time of the menopause, showing no material change after a duration of nine and one-half years.

Case No. 20. M. C. Female.

Occupation: Domestic.

Family History: Negative so far as known.

Mental Makeup: No information available.

Age on Admission: 40.

Previous Attacks: For a period of about three months, thought people were talking about her, two years prior to admission, at the time when she was in very poor physical health.

Age at Onset: 40.

Psychosis: Thought her employer suspected her of being mixed up in thefts which had occurred at the house and had a detective follow her. Went from one city to another to escape detectives. Thought she was suspected of being responsible for murders mentioned in the newspapers. Suspects that her landlady is plotting against her. Oriented. Coherent in speech. Shows no emotional disturbance. Thought some of the other patients did not want to have her in the hospital. Thought that she was in the way. Declined to return to her sister's home. Thinks possibly her sister might have attempted to poison her. Occasionally strikes at other patients. Has been in the hospital for five years and seven months. Still shows evidences of paranoid trend.

Physical Condition: Good.

Alcohol: Not a factor.

Arteriosclerosis: Right pupil irregular in outline. Blood pressure 132. Wassermann reaction negative.

Diagnosis: Paranoid Condition developing in a woman at the age of 40, still present after six years.

Case No. 21. E. .F. Female.

Occupation: Housework.

Family History: Mother spent eight years in the Boston State Hospital. Has had a sister at Westborough.

Mental Makeup: Said to have been a good mixer. Well spoken of and jolly. Was not sensitive and was looked upon as capable and economical.

Age on Admission: 49.

Previous Attacks: Was nervous and excited for two months after birth of her first child 11 years ago.

Age at Onset: 46.

Psychosis: Three years before admission, began to talk of Jews following her. Thought her husband had doctors following her also. Was suspicious and secretive. Asked to be admitted to the Psychopathic Hospital, saying she was afraid she would do someone harm. Had been irritable and antagonistic for the last three years and has not attended church for that reason. Memory and orientation good. No insight. Thinks her husband has influenced her daughter against her. Thinks he has persecuted her since her father's death three years before her admission. Still in the hospital after two and one-half years.

Physical Condition: Good.

Alcohol: Not a factor.

Arteriosclerosis: Pupils unequal; left smaller. Both react normally. Blood pressure 118. No peripheral sclerosis.

Diagnosis: Paranoid Condition developing in a woman at the age of 46, and persisting after five and one-half years. Menopause three years prior to admission.

Case No. 22. W. L. Female.

Occupation: Housework.

Family History: No reliable information on this subject.

Mental Makeup: Only such information as can be obtained from the patient. Says she got along well in school but was not particularly bright. Never had much ambition and was socially inclined until she came to this country. Since her arrival here, has made few friends and seldom goes out. Has been subject to changes of mood.

Age on Admission: 44.

Previous Attacks: None.

Age at Onset: 42.

Psychosis: Has had pain on the top of her head for about two years, together with peculiar sensations in her body, which she cannot describe. Thought for a year or more that people were talking about her and looking at her on the streets. Thinks she was poisoned by arsenic about a year previous to admission. Can feel this in her head and in her heart. Has worried about this at times. Thought she was given poison by the doctors at the Carney Hospital. Has shown frequent hallucinations of hearing at the hospital. Was examined by a woman physician about seven years ago. Her landlady said later that the doctor said that she was pregnant. Later says the doctor told her that she had a tumor that was inoperable. Worried about this. Patient is oriented for time, place and person. Seems to have a good memory. Thinks there is a dictaphone in the wards. Shows no incoherence. Is irritable at times. Has but little to say to others. Occasionally speaks of the dictaphone. Left the hospital after seven months and getting along satisfactory outside.

Physical Condition: Good.

Alcohol: None.

Arteriosclerosis: No evidence.

Diagnosis: Paranoid Condition developing in a woman of 42, prior to the onset of the menopause, and continuing after about six years, although she is able at this time to get along outside of the hospital.

Case No. 23. D. C. Female.

Occupation: Laundress.

Family History: Negative as far as known.

Mental Makeup: Patient was considered a lively, sociable person, very jolly and witty. Fond of company. Had often spent many hours reading at the Public Library. It is also said that she has been sensitive about losing her hearing, which occurred several years ago. Has never been subject to blue spells.

Age on Admission: 50.

Previous Attacks: None.

Age at Onset: 50.

Psychosis: Several months before admission, presented an appearance of nervousness. Her sister thought that she needed a rest. Began to think that other employees were talking about her and laughing behind her back. Also developed some irritability. Left her employer without notice and worried because she was unable to get another position, although she did not look for one. On admission, stated that her nervousness was due to the voices which she had heard. States that she has had a habit of talking to herself for three or four years, but that this was not in response to voices. Has been knocked about for several months before coming to the hospital. Someone said that she did not love her country. Correctly oriented as to time, place and person. Seemed to have a good memory for both recent and remote past. Probably going through the menopause at this time. Shows no confusion or incoherence. Improved to such an extent that she was allowed to leave the hospital after one year and four months.

Physical Condition: Good.

Alcohol: None.

Arteriosclerosis: Shows evidence of a slight arteriosclerosis.

Diagnosis: Paranoid Condition, developing rather early in a woman of 50, and persisting for several years, improving to such an extent as to enable her to return to her home.

Case No. 24. R. D. Female.

Occupation: Housekeeper.

Family History: Negative as far as known.

Mental Makeup: Had a happy disposition, many friends. Always worked hard and did not go out much. No other information available. An aunt had a mental disturbance in Ireland; duration unknown.

Age on Admission: 50.

Previous Attacks: None.

Age at Onset: About 44.

Psychosis: Patient's husband died about eight years prior to admission. After this, she became depressed. About a year after his death she began to hear people talking about her. The woman in the apartment above hers could see everything that she did. This woman and her husband looked down through holes in the ceiling. She could hear them talk about what she was doing. Her niece sent her to the Psychopathic because she had a grudge against her. People avoided her on the streets. Afraid she will be murdered by people whose characters have been taken away from them by what she said. Correctly oriented as to time, place and person. Showed no memory defects. Was lacking in insight and judgment. Appeared depressed while in the hospital. Showed evidences of active hallucinations. Later became threatening and irritable. Demanded her release from the hospital and struck at the physician. Occasionally obscene and abusive. Talks to imaginary people. Says the physician in charge of the service killed her son by getting him into the Charlestown Navy Yard. The doctor is trying to get people into the Navy Yard to kill them. Still hallucinated and deluded, although probably not deteriorated, after three years hospital residence. Shows no emotional disturbance.

Physical Condition: Good.

Alcohol: Probably did not use alcohol to any extent.

Arteriosclerosis: Slight.

Diagnosis: Paranoid Condition developing in a woman at the age of 44, showing little if any deterioration after a duration of about nine years. Psychosis developed several years prior to the menopause.

Case No. 25. M. B. Female.

Occupation. Housewife.

Family History: Negative as far as known.

Mental Makeup: No information available.

Age on Admission: 56.

Previous Attacks: None.

Age at Onset: 56.

Psychosis: Several months before admission told her husband somebody was trying to chloroform her. She would not stay in the house. Left home and went to South Boston. Has engaged rooms in several places, moving from one to another to escape her pursuers. Husband says she watched the windows of a house next door for hours at a time. Says that there were Bolsheviks in this house and that her husband was living with a woman next door. Says this woman was in the ward of the Psychopathic Hospital with her. The Bolsheviks were trying to poison her by blowing gun powder and chloroform in her house while she is away. Could see the stuff on the window pane. They blow poison in on a graphophone also. Says her husband beat her. Oriented for time, place and person. No memory defects. No insight as to her condition. Judgment poor. At the hospital patient showed active hallucinations and delusions of persecution. Said the Cardinal annoyed her by wireless, and that he kept a fast house where the gang hung out that persecuted her. Said she was at the Cardinal's nerve institution. Said her husband was hypnotized by one of the Bolsheviks who wanted to get $50,000 insurance after her death. The electric cars told her things. Very loud in her conversation and quite noisy at times. Was irritable and suspicious. Became excited easily and lost control of herself. When excited was inclined to become incoherent. Is still in the hospital after three years and seven months. Shows no improvement. (Menstruation ceased two years prior to admission.)

Physical Condition: Good.

Alcohol: Has used alcohol to a certain extent; apparently very little.

Arteriosclerosis: Very slight.

Diagnosis: Paranoid Condition; developing in a woman of 56, two years after the menopause, and continuing after approximately four years.

Case No. 26. A. D. Female.

Occupation: Housewife.

Family History: Negative as far as known.

Mental Makeup: Even disposition as a rule. Was much devoted to her children and never went out to the movies. Not very religious although a firm believer. Husband states that she was of an even-tempered disposition and got on well with the neighbors. Had the same friends for many years and never quarreled. Her whole interest centered around the house and her children. Spent most of the time with housework and rarely read. Was not given to day-dreaming.

Age on Admission: 40.
Previous Attacks: None.
Age at Onset: 40.
Psychosis: About six months before admission patient began to hear the water pipe make a tapping noise, and developed the idea that her husband was in hell and that the devil would let him out at times. Thought the physician was the devil. She was certain that her husband had committed suicide and could hear spirits talking under the window. Said she was the Blessed Mother, and would replace the Blessed Mother, Who was tired of sitting on Her throne. Could hear priests talking in the basement. Thought the nurse had put something in her food to get rid of her because she had done wrong. Patient was correctly oriented as to time and place and seemed to have very good memory. No insight into her condition. She was not incoherent at any time. Was suspicious and irritable in the hospital and actively hallucinated at all times. Frequently found kneeling in prayer. Seemed depressed at times. Spends many hours reading a prayerbook. Still in the hospital after three years and shows no material improvement. Is passing through the menopause at the present time.
Physical Condition: Good.
Alcohol: None.
Arteriosclerosis: None.
Diagnosis: Paranoid Condition developing in a woman of 40 shortly prior to the onset of the menopause, showing no material change after three years.

Case No. 27. C. A. S. Female.
Occupation: Domestic.
Family History: Negative as far as known.
Mental Makeup: Was quiet, courteous and good-natured. Confined her social activities pretty much to her sister. Would rather work than run around. Is said to have been a reader. No other information available.
Age on Admission: 42.
Previous Attacks: None.
Age at Onset: 42.
Psychosis: A few weeks before admission heard the voice of a man in her room. Thought someone was going to do her harm. Said that one night there was gas thrown on her while she was asleep. She knew she was gassed because she tried to wake up and couldn't. On another occasion when she was asleep a man took advantage of her, because she felt on the following day a peculiar sensation in her abdomen as if she was cut. Following this she had a pain in the back of her head. Thinks the cook where she worked was talking about her. Well oriented. Showed no memory defects. Blames her employer for sending her to the hospital. Insists that there were a lot of men in her room. Is somewhat irritable at times. Denies hallucinations. Said she would escape if she had a chance. Says now that she has been worrying for at least two years for fear that she had received some infection from a man with whom she had been acquainted twelve years ago. This was on account of a skin eruption which she had. Still in the hospital after one year and three months. Shows only mild paranoid trend.
Physical Condition: Good.
Alcohol: None.
Arteriosclerosis: None evident.
Diagnosis: Paranoid Condition apparently developing abruptly in a woman of 42, prior to the onset of menopause, and continuing unchanged after fifteen months.

It will be noted that these cases, as a rule, were characterized by a protracted course often extending over many years. Of the twenty-three cases, 15 had undoubted hallucinations of hearing; 5, hallucinations of both hearing and vision; and hallucinations were probably present in the few remaining cases. Delusions of persecution constituted, of course, the prominent feature of all the cases. The sensorium was clear in every instance and the personality was well preserved. There was no incoherence in expression. Emotional excitements and depressions were practically never present, although irritability and suspicion were common. Delusions of electricity and poison were present in some of the cases. Delusions of grandeur were very rare. Memory was not affected in any instance, nor was there any disorientation or confusion. Insight was, of course, completely lacking, and judgment badly impaired. Somatic ideas only infrequently appeared. Jealousy was spoken of in several cases. Quarrelsome traits were common. Dangerous assaults were almost unknown. Suicidal tendencies were very rarely observed. A few cases showed a marked sex coloring. None showed any evidences of deterioration.

IV

Schizophrenic Conditions

Six men showed definite schizophrenic syndromes. One of these cases was complicated by alcoholism. Of the remaining five, two developed at or about 40, one at 42, one at 43 and one at 45. Only one showed schizoid tendencies worthy of mention in his previous life. Two of these cases deteriorated after some years; one terminated in death after 12 or 13 years; none recovered. None of these cases showed any alcoholic or arteriosclerotic factors worthy of consideration. Summarized briefly, these cases were as follows: —

Case No. 28. F. O. Male.
Occupation: Waiter.
Family History: Negative as far as known. No definite information.
Mental Makeup: Said to have had a sociable, cheery disposition and was very good-natured. No other information available.
Age on Admission: 48.
Previous Attacks: None.
Age at Onset: About 40.
Psychosis: When about 40 or 41 a change was noted in the patient by his relatives. He changed his work from one place to another, saying his Boston co-workers talked about him. He also became quick-tempered. Heard a rumor on the streets that something terrible was going to happen. Thought that he and his sister were to be shot and asked for protection. Said that a millionaire had been trying to get him to marry his daughter for over a year, but that she was not good enough for him. As a result of this he expects to be shot. Thought people watched him because he was good-looking. Has talked to himself for about two years. Went to the police station to get a bank book and was sent to the Psychopathic Hospital. Says a coon has been annoying him for four years. Said somebody did something to him while he was asleep which left him with a headache. Thought someone tried to kill him. A large man told him that he would kill him. Attempted suicide while in the hospital by diving head foremost to the floor from a bench. Said he preferred death to slavery. Thought he was unlawfully kept here and subject to persecution. Heard attendants plotting against him. Has marked delusions of persecution. Makes faces, grimaces, shows stereotyped behavior. Stands for long periods in fixed positions. At times was noisy, destructive, and later became incoherent. Died of bronchopneumonia after four years and three months in the hospital.
Physical Condition: Good, on admission.
Alcohol: Apparently did not use alcohol.
Arteriosclerosis: No evidences of arteriosclerosis.
Diagnosis: Schizophrenic Condition, paranoid type, developing in a man at about the age of 40, terminating in death as a result of bronchopneumonia after 12 or 13 years.

Case No. 29. W. L. Male.
Occupation: Longshoreman.
Family History: Negative as far as known.

Mental Makeup: Has never been active. When not working would be lying down. Read the newspapers but had no interests. Principal amusement was standing on the street corner or sitting in the park. Was a great joker, but was honest and told no vicious lies. Said to have been cheerful and good-natured. Was quiet and nice in the house and gave no trouble.

Age on Admission: 46.

Previous Attacks: None.

Age at Onset: Probably after the age of 40.

Psychosis: Shortly before admission patient began to think somebody was haunting him. Thought it might be a man who had died in the house where he lived. Said he had stolen from the dead man. Avoided people and seemed frightened. Cut out comic pictures in the papers and put them on the wall of his room, which was quite contrary to his previous custom. Took down pictures of a girl because she was laughing at him. Once said that he thought the stove was walking away. Put a picture of Pope Leo on his pillow so he would have better luck. Smashed the salt cellar on one occasion because he thought the landlady was trying to poison him and get his money. Refused to leave the house at her request and said he would kill everybody. Was removed by the police. He had trouble with his next landlady and had to leave. Was suspected of setting fire to a shed. Told a friend that his sister-in-law had crossed him and he would have vengeance on her. Talked to himself at times. Since admission has been surly, seclusive and inaccessible. Gave evasive answers to questions. Talks but little. At times has hinted at persecution. Said he came to the hospital as a result of a frameup by a crooked gang and that the hospital stood in with the crowd that sent him here. Transferred to another hospital after three years and three months, showing no improvement.

Physical Condition: Good.

Alcohol: Formerly drank beer excessively. During the last seven years has used little alcohol, if any. Denies use of whiskey at any time.

Arteriosclerosis: No evidences of arteriosclerosis.

Diagnosis: Schizophrenic Condition, paranoid form, with some deterioration, developing in a man apparently at the age of 40 and progressing to a chronic condition which persists after approximately ten years.

Case No. 30. P. R. Male.

Occupation: Laborer.

Family History: Negative as far as known.

Mental Makeup: No schooling. Unable to read or write. Got along well with his neighbors and had many friends. Was a constant worker. No history of depressive moods. Very little information available.

Age on Admission: 43.

Previous Attacks: None.

Age at Onset: 43.

Psychosis: Developed the idea that someone was going to kill him, several months before admission. Became excited at times and was much frightened. Said that somebody was going to get him. On admission showed a marked cerea flexibilitas. Refused nourishment and had to be tube-fed. Was untidy and restless. Later resumed nourishment. Continued mute, resistive and untidy after several months. Was allowed to leave the hospital after three years and three months, and was subsequently heard from in a New York institution.

Physical Condition: Fair.

Alcohol: None.

Arteriosclerosis: None.

Diagnosis: Schizophrenic Condition developing in a very short time in a man of 43 and showing no improvement after four years.

Case No. 31. J. F. M. Male.

Occupation: Stationary engineer.

Family History: Negative as far as known.

Mental Makeup: Patient was always rather quiet and seclusive. Was inclined to be backward among strangers. Has always been kind and considerate and got along well with his neighbors.

Age on Admission: 50.

Previous Attacks: None.

Age at Onset: 45.

Psychosis: Said to have been more or less nervous the past five years and was worrying about his financial condition. Acquired the habit of muttering to himself. Had a dull, dreamy expression and seemed to be living in another world. Everyone had the impression that he was not right mentally. Was discharged from his position as second-class engineer because his employers were afraid to let him have the responsibility of running a high pressure boiler. Threw some pieces of ice at the driver of a milk team, who had him arrested for assault and battery. Worried about this for a long while. Was oriented for time and place and seemed to have an unusually good memory on admission. Appeared to be apathetic and disinterested on coming to the hospital. Took no great interest in detention. Thinks his arrest was due to a trap laid by a man who desired to murder him. Shows some incoherence in speech and is more or less inaccessible. Has no insight into the situation whatever. Was allowed to go home at one time but became ugly and violent, threatening to to strike his wife, and was brought back to the hospital. Thought the neighbors were shooting at him. Accused his wife of sexual perversions and said that this was the cause of his mental trouble. The neighbors were also involved. Admitted hallucinations of hearing. Was emotionally very indifferent. Said the neighbors could paralyze his hands, and spoke of that as mental stuff. Thought somebody was trying to influence his mind. Claimed that his wife opposed him. Condition remains practically unchanged after two years and nine months. Still in the hospital.

Physical Condition: Good.

Alcohol: None used.

Arteriosclerosis: Shows evidence of beginning involvement of the peripheral vessels and some arcus senilis.

Diagnosis: Schizophrenic Condition developing in a man of 45 and resulting in a very mild deterioration after approximately eight years.

Case No. 32. H. L. F. Male.

Occupation: Illustrator.

Family History: Had a sister in the Boston State Hospital.

Mental Makeup: Was fond of company, and music, playing the violin and piano. Has always been studious and of an inventive turn of mind. Has patented at least one article. Was sociable at home and liked to go out with the boys, although he did not care much about the opposite sex. Has always been affectionate, of a generous nature, and sensitive.

Age on Admission: 42.

Previous Attacks: None.

Age at Onset: 42.

Psychosis: Several months before admission, was noticed to be nervous. Objected to eating. Showed some insomnia but no despondency. Was studying osteopathy at home for some time. Worried about lesions in his neck. Took up Christian Science four or five years prior to admission. At the hospital said he was being killed; that he would be dead in a few minutes. Assumes peculiar attitudes. Said his people wanted to ruin him. Has occasional outbursts of excitement. Makes unprovoked assaults at times on other patients. Is untidy in his habits. Is correctly oriented in all spheres. Seems to show no memory defect. Is restless, excited, destructive and threatening at times. Asked if there was poison in his candy. Later became mute, untidy and manneristic, making peculiar noises. Removed his clothing whenever he had an opportunity to do so. Preferred to walk around dressed in a shirt only. Still fears that he is to be killed. Says he is awful sick. Has become very inaccessible. Still in the hospital after five years and four months, in a chronic condition which shows no improvement.

Physical Condition: Fair.
Alcohol: None.
Arteriosclerosis: None.
Diagnosis: Schizophrenic Condition developing in a man of 42 and progressing to a somewhat deteriorated state after five and one-half years.

Thirty women showed schizophrenic syndromes. Of these, two were complicated by arteriosclerosis, two by other somatic conditions, and one by alcoholism; and one was probably a genuine dementia praecox of long standing. Of the other 24 cases, 8 showed schizoid trends in their makeup, 11 were, to all intents and purposes, apparently normal, and in 5 cases no reliable information was available. Three of these cases developed at the age of 40, three at 41, four at 42, two at 43, two at 44, three at 45, one at 46, one at 48, one at 49, three at 50, and one at 53. In only one case had there been any previous attack. In this one there was a mild depression of from four to six weeks twelve years before admission. Alcohol was not a factor in any of these cases and arteriosclerosis can be disregarded in the etiology to a reasonable degree of certainty. Five cases in time showed a mild deterioration and three an advanced deterioration. Thirteen showed little if any change; one case made a complete recovery; and two improved to such an extent as to warrant their going home. One case developed definitely before the beginning of the menopause, 5 during that period and four after its completion. In the remaining cases we have no information given in the case records. This would indicate that in many instances the menopause had not been established. Brief summaries of these cases are as follows:

Case No. 33. I. C. Female.
Occupation: Housework.
Family History: Negative as far as known.
Mental Makeup: Cheerful, sociable disposition. As a girl was not inclined to worry. Enjoyed being with her friends. During her married life did not have enough to do. Had few outside interests and gradually became more and more shut-in and irritable.
Age on Admission: 51.
Previous Attacks: None.
Age at Onset: Probably about 43.
Psychosis: Nephew states that she was perfectly normal ten years ago when coming to this country. Began to laugh and talk to herself about eight years ago. Seven years before admission told him she would like to kill her husband. At this time she began to believe that the priest had given her some medicine to make her fall in love with him. Made such a disturbance at the priest's house that she had to be put out, and went into the street shouting. Since then her actions have always been peculiar. Four years before admission, left her husband, with whom she had quarreled on numerous occasions. Threatened to drive the woman that she was living with out of the house. Police had to be called in. She was taken to Taunton, where she remained six months. After leaving there she again showed many peculiarities and people were afraid of her. Showed no evidences of hallucinations or delusions on admission to the hospital. Did not know where she was. Thought it was some sort of a charity place and thinks that people here are crazy. Was unable to give her birth date. Was very suspicious and irritable but showed no incoherence. She was for some time at the Long Island Hospital, where she became quarrelsome and violent. After being at this hospital for a while, developed evidences of hallucinations of hearing. Remains at the hospital after two years and five months, showing no marked improvement.
Physical Condition: Good.
Alcohol: None.
Arteriosclerosis: No peripheral sclerosis apparent. Blood pressure 159.
Diagnosis: Schizophrenic Condition, paranoid form, characterized by hallucinations and delusions, and some deterioration, extending in all over ten years and beginning at the age of 43.

Case No. 34. M. A. H. Female.
Occupation: Housewife.
Family History: Negative as far as known.
Mental Makeup: Active and sociable as a girl. Since marriage has rarely gone out of the house. Takes part in no amusements. Few friends outside of her own family. No special interests. Sits around and thinks a great deal. Thinking of "Perhaps things that never happened."
Age on Admission: 45.
Previous Attacks: None.
Age at Onset: Probably about 42.
Psychosis: Of uncertain origin, possibly dating back three or four years, although sometimes she states that her troubles began one month before admission. Had some quarrels with friends. Thinks that they put articles in the newspapers about her. Says this had been going on for two years but she knew nothing it of until the landlord told her about it. They threatened to have her sent back to Ireland. Has been hearing voices recently. These voices say that she is a Tartar and trying to throw other people down. Insisted that she was pregnant, although she is not. Voices told her that she was untrue to the President of the United States, senators, etc., and that something was going to be done to her to injure her physically. Was apprehensive and agitated at times as a result of voices which she hears in various parts of the building. Hallucinations of hearing have been quite prominent in her psychosis. Later said that her family and herself were all to be killed downstairs. Was noisy from time to time. Repeatedly insists that she is not a Jew nor a heretic. Occasionally denies being a negro. These statements are probably due to accusations made by imaginary voices. Still in the hospital after six years. Shows no improvement.
Physical Condition: Fair.
Alcohol: None.
Arteriosclerosis: Shows evidences of beginning arteriosclerosis.
Diagnosis: Schizophrenic Condition developing in a woman at the age of about 42, and continuing unchanged after nine years.

Case No. 35. A. B. Female.
Occupation: Housewife.
Family History: Negative as far as known.
Mental Makeup: Has been a contented, patient woman, good housekeeper and cook, and very saving of money. Interests lie largely in her housework. Cared nothing for movies. Her only diversion was going to the park. This was because she liked to be out of doors. No other information available.
Age on Admission: 45.
Previous Attacks: None.
Age at Onset: 45.
Psychosis: Began to talk queerly five days before admission. Is said to have been incoherent at the time. Saw a crowd of Jews around here. Talked about Jews and about whiskey. Was inaccessible and negativistic on admission and mute a large part of the time. Walked about the ward with a sheet draped over her head and shoulders. Resisted any efforts on the part of the nurses. It was necessary to resort to tube-feeding. At times went around with her clothes off. Has shown peculiar attitudes. Paid no attention to severe pinpricks. Had to be carried into the ward when admitted. Occasionally committed assaults on the nurses. Was threatening and violent. Expressed the idea that there were men in her room at night. Thought poison was put in her food. Says that her relatives were being cut up and murdered and that the supervisor goes about at night to poison people. Later became pleasanter and appeared much deteriorated. Took part in the work of the wards. Became quite useful as a worker. Later again expressed delusions of poisoning in her food and showed evidences of hallucinations. Afterwards showed material evidences of improvement. Became a very efficient ward worker, although occasionally noisy, irritable and threatening, with active hallucinations.

Becomes very much disturbed whenever any man comes into the ward. Still in the hospital after five years and six months.

Physical Condition: Good.

Alcohol: None.

Arteriosclerosis: None.

Diagnosis: Acute development of a schizophrenic syndrome in a woman of 45. This progressed to a chronic condition which continues without material change after approximately five and one-half years.

Case No. 36. M. T. C. Female.

Occupation: Clerk.

Family History: A paternal first cousin was a patient at the Boston State Hospital. Otherwise negative as far as known.

Mental Makeup: Was very quiet, kindhearted and had a sense of humor. Liked to have a good time and spent much time out of doors fishing and walking out in the country. Had very few friends, as she was very particular about making them. Got along well with others. Did not like talkative people. Spent a good deal of time reading. Seemed to be happy and enjoyed life.

Age on Admission: 45.

Previous Attacks: None.

Age at Onset: 44.

Psychosis: About a year before admission was thought to have typhoid fever or sleeping sickness. Had some delirium at the time. Shortly before admission burned up some of her things. Threw other articles away. Has given away some money. Thought she was pregnant, although she was not. Spent much of her time with a ouija board. Said she would have to jump from the window unless people left her alone. Thought people were watching her. Even thought her shirt was watching her. Memory seemed to be somewhat impaired. Thought she had a message from the Governor. Messages come into her mind and she believes that the dead come back to earth. Thinks most people are marked with a cross. Patient states that she can do automatic writing and has communications from various people. At times is noisy and sings loudly. Often appeared to be quite irritable. Has been violent at times and made assaults on the nurses. Often throws things out of the windows of the wards. Is irritable when questioned as to the reason for doing such things. Later, began to talk to herself and complained about invisible surgery. Correctly oriented as to time, place and person. Seemed to have a good memory. Many delusional ideas regarding her sister and other members of the family. Says when she holds her breath she can hear somebody breathing inside of her. Thinks electricity goes out of her mouth, and says that her tongue is burned. States that she believes in telepathy and can talk to other people. Died of acute hemorrhagic pancreatitis after three years and eight months residence in the hospital.

Physical Condition: Poor.

Alcohol: Denied.

Arteriosclerosis: Very little found at autopsy, principally in the coronary arteries.

Diagnosis: Schizophrenic Condition developing in a woman at the time of the menopause and after an attack of influenza or encephalitis at the age of 44, terminating in death after four years and eight months.

Case No. 37. E. J. C. Female.

Occupation: Domestic.

Family History: Negative as far as known.

Mental Makeup: No information obtainable.

Age on Admission: 55.

Previous Attacks: None.

Age at Onset: 48.

Psychosis: Psychosis apparently developed at the age of 48, shortly after the death of a daughter. She began to think that people talked about her being a Catholic and Irish. Said people on the streets looked at her and laughed at her.

Passed by friends and would not speak to them. Began to lose interest in everything. Stopped working and spent most of her time sitting around or walking out alone. Laughed and talked to herself. Two years before admission began to hear voices which made her laugh, and at other times angry. Shortly thereafter, began to write to the State House letters saying that the Governor owed her money. Since then she has spent a considerable part of the time in bed. Claimed that she owned the world and was "empress of all she surveyed." Began to think that the pictures in the newspapers were mocking her. Has been absentminded in the last two years and forgetful. Voices told her that her daughter was torn apart, her bones sawed up, and that she was left naked in the graveyard. They sold her burial clothes. She also heard the shot fired which killed her daughter. She thinks the crooks are Jews that have had something to do with it. Says now that both she and her husband have negro blood in them; that the children are negroes. Has lost all religion and no longer believes in immortality. Does not want to wake up after death. Menses stopped five years prior to admission. Shows incoherence and irrelevance at times and is occasionally irritable and excited. Is restless at times in the wards. Shows some memory impairment and disorientation. Still in the hospital after five years and three months.

Physical Condition: Fair.

Alcohol: None.

Arteriosclerosis: Evidences of beginning arteriosclerosis appeared after admission to the hospital.

Diagnosis: Schizophrenic Condition developing in a woman at the age of 48, and remaining practically stationary for twelve years.

Case No. 38. N. S. Female.

Occupation: Domestic.

Family History: Negative as far as known.

Mental Makeup: Was religious. Quiet at home. Not peculiar, and liked people. No other information available.

Age on Admission: 50.

Previous Attacks: None.

Age at Onset: 50.

Psychosis: Patient was employed as usual up until a few months before admission. About two months before coming to the hospital was frightened by a man walking in the halls at night. Thought this man wanted to hire a room. Did no work after that. At the Psychopathic Hospital she talked to herself. Said another employee was going to sue her for calling her names. Said she had not been herself for two months and has been too tired to work. Shows no evidence of any emotional disturbance. Thought that someone tried to shoot her. On admission to the hospital said that she owned the whole world. Told the examiner that she had owned it for only a short while; then said, "You are the man who was reading the paper over me. You are under arrest and are sued." Accused him of trying to drown her in a tub, When asked what place this is, said: "It is Canton Avenue." Complains that her bed in the hospital is full of electricity. Is disoriented as to time, place and person, and mistakes the identity of those about her. Has numerous hallucinations of hearing and delusions of persecution. Is markedly incoherent in her conversation. Occasionally resistive and sometimes violent. Acts silly and childlike at times. Occasionally has impulsive episodes and shows mannerisms such as grimacing, and smiles in a silly way. Shows no change after three years and one month in the hospital.

Physical Condition: Good.

Alcohol: None.

Arteriosclerosis: None.

Diagnosis: Schizophrenic Condition developing in a woman of 50, ten years after the menopause, and continuing unchanged after a little over three years in the hospital.

Case No. 39. M. S. Female.

Occupation: Housework.

Family History: Maternal grandfather died insane. Patient's father is said to have been mentally unbalanced for fifteen days prior to his death. Otherwise, negative as far as known.

Mental Makeup: Patient is said to be quiet as a rule and never made many friends. Was always very neat and clean with the housework, and was very particular about her children. Seemed to be happy and thoroughly engrossed in the home life, not going out and mingling with others much. Not jealous or vain, but was impulsive and showed erratic judgment.

Age on Admission: 41.

Previous Attacks: None.

Age at Onset: 41.

Psychosis: A few months before admission began to think that people would harm her. Was afraid of an Italian family living in the same house. Thought that people were talking about her and wanted to kill her. Said that they would put medicine in the food to do away with her. Said $20,000 was needed to save her from being killed. Wanted her brother-in-law in Spain to send her a million dollars. Says neighbors have been plotting against her, but that God protects her through Mary and Jesus who know her. Is oriented in all spheres. Neither recent nor remote memory shows any impairment. Thought she was pregnant on coming to the hospital, although there was no ground for this belief. Patient was excited, irritable, voluble in conversation. Heard the voice of her brother-in-law in Spain constantly, as well as many other people who were talking about her. Says she gets telegrams through the ceiling. Some of them say that she will be killed. Is inclined to be seclusive, as well as somewhat irritable. Emotionally is dull and apathetic. Has had sudden attacks of violence, making vicious assaults on attendants. Still in the hospital after two years and nine months.

Physical Condition: Good.

Alcohol: None.

Arteriosclerosis: None.

Diagnosis: Schizophrenic Condition developing in a woman of 41 and continuing without any material change after two years.

Case No. 40. F. W. Female.

Occupation: Domestic.

Family History: Negative as far as known.

Mental Makeup: Never very sociable. Never made up readily with strangers. For the last few years has been very reticent about her own affairs. Would not tell her sister how much money she made, or sometimes where she was living, even. Was good-natured and fond of children. Took them Christmas presents. Always sensitive and worried somewhat over her sister, who has been ill.

Age on Admission 40.

Previous Attacks: None.

Age at Onset: 40.

Psychosis: Patient noticed four or five weeks ago that people were watching her, and became absorbed and depressed. Several times later she was laughing more than usual. Thought some man was watching her. Has had crying spells. Piled chairs and things up against the door of her room to keep people out and on one occasion threatened to jump out of the window. Memory seems fair. Has been good until within a few days of admission. Attempted to choke another patient while at the Psychopathic Hospital. Was very untidy while there. Was unable to give her age. Did not know where she was, although she had an idea she might be in an asylum. Said her mind seemed to be clouded. Appeared confused. Said it was difficult for her to think. Has been untidy in appearance and in her habits. Tears up her clothing. Destroys window guards, etc. Says she is made to do everything she does and say what she says. Believes that the place is run by electricity. Hears numerous voices. Would stay in bed all day if allowed to. Never occupies herself in any way. Has been resistive at times and is occasionally violent. Has refused to wear shoes and stockings and wished to go about barefooted. Is impulsive at intervals. After five years and seven months, nothing can be obtained from her in the way of conversation except an incoherent mumble.

Physical Condition: Fairly good.

Alcohol: None.

Arteriosclerosis: None.

Diagnosis: Schizophrenic Condition beginning at 40 years of age and continuing unchanged after five years and a half, except for a progressive deterioration.

Case No. 41. A. C. Female.

Occupation: Housewife.

Family History: Negative as far as known.

Mental Makeup: Patient has always been in very good spirits. Was happy and had a calm disposition, taking life easily. Has been bashful, blushing easily at times. Never selfish. Said to have been fond of outdoor sports and enjoyed walking and bathing. Was a good housekeeper and has had many friends.

Age on Admission: 45.

Previous Attacks: None.

Age at Onset: 43.

Psychosis: Two years before admission patient thought the neighbors began to talk about her and called her foul names because they were jealous of her, her family being in a better social class than the others. These people said there were rats in her house and that they smelled badly, and that she, the patient, was rotten. Kept the windows of her house closed to prevent her from hearing these voices. Heard numerous voices talking about her. Thought the neighbors were trying to prove that she was noisy and a woman of the streets. Heard them say they would lay for her in the subway or in an area in the North End and would get her. People also followed her on the streets. Complained to policemen and asked for protection. Voices then said that if they could not get her they would get her daughter. Was afraid that people were trying to poison her. Thinks she is pursued by men and that one made an attack on her one night while at the Psychopathic Hospital. Was so disturbed when she was transferred to this hospital that it was necessary to bring her in a camisole. Showed numerous hallucinations of hearing and delusions of persecution after admission here. Complained of electricity. Fears that she is to be injured. Was allowed to go out on visit four months after admission, her condition having shown a marked improvement. On reporting at the hospital she showed no symptoms, and was discharged after two years.

Physical Condition: Good.

Alcohol: None.

Arteriosclerosis: None.

Diagnosis: Schizophrenic episode occurring at the time of menopause in a woman of 43 years, with what was apparently a complete recovery after about two years and a half.

Case No. 42. E. L. C. Female.

Occupation: Housewife.

Family History: Negative.

Mental Makeup: Always reserved. Somewhat seclusive. Liked moving pictures and vaudeville shows. Has been going to a fortune teller in Cambridge and became interested in him. No other information available.

Age on Admission: 42.

Previous Attacks: None.

Age at Onset: 40.

Psychosis: The patient has been more irritable than usual for the past two years. Five weeks before admission was accused of stealing coal from the neighbors. Thought that people were talking about her. Became more seclusive and suspected that she was being poisoned. Refused to eat ice cream brought home by her husband because she thought it contained something that would kill her. Then accused her husband of going with other women. Began to feel as though she was another person, and gave evidence of delusions of electricity. Thought she was sent to the hospital by her enemies, and believed herself to be under hypnotic influences. Referred again to electricity. Seemed suspicious. Orientation not impaired. Memory good. Says that she hears voices in her head. Thought they were due to electricity. Was excited and violent at times. Often restless at night. Depression continued for some time, patient occasionally having crying spells, which she attributes to her desire to go home. Allowed to go home after two years and two months. Discharged; Condition, improved.

Physical Condition: Good.

Alcohol: None.

Arteriosclerosis: None.

Diagnosis: Schizophrenic Condition developing in a woman at the age of 40 and continuing after four years, although improved to such an extent as to warrant her going home.

Case No. 43. K. I. Female.

Occupation: Housewife.

Family History: Negative.

Mental Makeup: A very industrious, conscientious person, who is said to have led a clean life and is spoken of as reliable and trustworthy. Somewhat sensitive. A fairly good mixer and enjoys company. Gets along well with the people in her neighborhood.

Age on Admission: 43.

Previous Attacks: None.

Age at Onset: 41.

Psychosis: Artificial menopause induced fifteen years ago as a result of an operation. Two years before admission, felt that she had the power of healing, and heard God's voice telling her to go to the sick. This, however, did not interfere with her usual routine. Three days prior to admission, suddenly developed the idea that she was being poisoned by gas and that she was under somebody's control. Had hallucinations of smell and delusions of reference. Neighbors have talked about her for two years and implied that she should not have a good home and good clothes. No insight into her condition. Oriented and coherent. Sensorium clear. No memory loss, although she evaded many questions. Left the hospital after one month's residence. Had numerous hallucinations at home. Landlord and tenants talked about her, calling her names. Moved to another house to escape them, but the landlord treated her in the same way. Felt that the organization was against her. Thought she could read people's minds, but is more proficient at prophesying herself. Said on rubbing her fingers that even her flesh could talk. "I rub my skin and then I hear words. I was baptized as a prophet by the Saviour in a vision." Some time later there was a question as to incoherence. Returned to hospital after six months. Allowed to go on visit after another six months.

Physical Condition: Good.

Alcohol: Not a factor.

Arteriosclerosis: Not a factor.

Diagnosis: Schizophrenic reaction, with a strong paranoid trend, appearing for the first time in a colored woman at 41.

Case No. 44. M. E. J. Female.

Occupation: Cook.

Family History: Apparently negative.

Mental Makeup: Always secretive. Undemonstrative and unsociable. Husband refers to her as a cake of ice. Is inclined to be melancholy. On the other hand, is energetic and ambitious. Not a quick thinker, but works hard.

Age on Admission: 48.

Previous Attacks: None.

Age at Onset: 42.

Psychosis: Six years ago patient began to be jealous of various persons, even jealous of a niece eleven years of age. Three years ago, began to think people were going to hurt her. Was afraid of persons who had died as well as those who were alive. Thought attempts were being made to poison her food. Ran away two years ago because she thought an acquaintance desired to kill her. Suspected her food of being poisoned. Ideas of persecution shift from one person to another. Wherever she is she thinks people are working against her. No definite history of hallucinations from husband. Has had dreams which frighten her. No impairment of memory. Correctly oriented. No insight or judgment. Incoherent at times. Brief periods of mutism. Inaccessible at times. Frequently irritable. Still in hospital after six and one-half years. Quite paranoid, hallucinated, deluded, apparently somewhat deteriorated.

Physical Condition: Good.

Alcohol: Not a factor.

Arteriosclerosis: Not a factor.

Diagnosis: Schizophrenic reaction developing in a woman apparently in the neighborhood of 40 years, and progressing to a chronic stage with some deterioration.

Case No. 45. A. V. L. Female.

Occupation: Housework.

Family History: Negative as far as known.

Mental Makeup: Shy, timid person who had few friends. Did not care to make acquaintances. Stayed at home and read a good deal. Did not care to go out. Had occasional blue spells previous to illness. Seemed worried at times. Has never been a nervous person. Had a good temper. Was considered intelligent by her associates.

Age on Admission: 42.

Previous Attacks: None.

Age at Onset: 42.

Psychosis: A few weeks before admission thought people in the restaurant were making a fool of her, and cried all day about it. Nearly three months before admission, also thought her sisters had put poison in her coffee. Shut herself in and would have nothing to do with her relatives. Said everybody was against her. People were hollering at her and trying to make a fool of her. Thought men were trying to install a radio in her home to find out what she was talking about. She also heard people call her names. Worried quite a bit over this. Said men were trying to electrocute her and that she felt electricity in her body. Threatened to throw herself out of a window before she came to the hospital. At the hospital was inaccessible and suspicious. Did not know where she was, but was oriented as to time. Apparently there was no memory defect. Afraid of her relatives. Unable to tell how long she had been in the hospital. Childish. After one year's residence in the hospital still has hallucinations of hearing. Is somewhat noisy. Very inaccessible. For this reason it is difficult to find out about her delusions.

Physical Condition: Not related to the psychosis.

Alcohol: History negative.

Arteriosclerosis: Not a factor.

Diagnosis: A schizophrenic reaction developing in a woman of 42, resulting in what would appear to be a chronic psychosis.

Case No. 46. M. F. M. Female.

Occupation: Nurse.

Family History: Negative as far as known.

Mental Makeup: No information available.

Age on Admission: 44.

Previous Attacks: None.

Age at Onset: About 41.

Psychosis: Says she left a hospital where she had been a nurse two years prior to admission, because men were watching her. They were probably afraid that she knew something which might be used to injure others. Can hear these men talking wherever she goes. Received electric shocks at about that time as a result of sitting down on a piano which had been wired for electricity by someone. Oriented as to time and place. Conflicting stories about her past would indicate some memory defects, although recollection of recent events is unimpaired. Has hallucinations of hearing. Receives messages over the wireless. Incoherent in speech at times. Many bizarre delusions of a somatic nature. Still in the hospital after a residence of two years and two months.

Physical Condition: Fair.

Alcohol: Not a factor in psychosis.

Arteriosclerosis: Pupils somewhat irregular. Blood pressure 138. Knee jerks not elicited.

Diagnosis: Schizophrenic syndrome developing in a woman at the age of 41, as far as can be determined, and progressing within four or five years to a fairly well marked degree of deterioration.

Case No. 47. A. F. B. Female.

Occupation: Housework.

Family History: Negative as far as known.

Mental Makeup: Is said to have had a good disposition. No other information available.

Age on Admission: 55.

Previous Attacks: None.

Age at Onset: 53.

Psychosis: Became suspicious of her husband about two years ago and accused him of being untrue to her. Heard voices accusing her of being a dirty housekeeper. Thinks her husband, her mother and the neighbors accused her of being insane and that they persecuted her. Said voices came to her through the walls and from across the street. Thinks her husband attempted to poison her. Thought somebody was trying to trap her, although she did not know why. Thinks she was drugged 16 or 17 years ago by some woman. Refused to see her husband when he visited her at the hospital. Has been suspicious and seclusive since admission and has ideas of reference. Shows incoherence at times in her speech. "Other people seem to know what I think. Do you see that dent in my forehead? That came after a tooth was extracted. Someone else has a dent. No, a cross, But we do not have to speak of that." Obviously still has hallucinations of hearing. Still talks about drugs. Has been in the hospital for three years.

Physical Condition: Good.

Alcohol: Not related to psychosis.

Arteriosclerosis: No evidences of arteriosclerosis.

Diagnosis: Schizophrenic reaction with paranoid coloring, apparently developing in a woman of 53, some years after the cessation of menses.

Case No. 48. M. E. C. Female.

Occupation: Housework.

Family History: One sister has been a patient at this hospital. Otherwise negative as far as known.

Mental Makeup: Unknown.

Age on Admission: 53.

Previous Attacks: None.

Age at Onset: 45.

Psychosis: Began to complain of her body being electrified eight years before admission. Has been very seclusive since then and afraid of other people. Was obviously hallucinated and talked at night, apparently replying to voices. This condition has grown progressively worse. Thinks that people are talking about her and hears voices coming from the walls. Dead people have come to life. Menopause occurred at 46. Memory good. Orientation rather poor. No insight or judgment. Has very active hallucinations, hearing graphophone, radios, etc., making a noise nearly all the time. Also hears the voice of a doctor at the Peter Bent Brigham Hospital. Receives conversation on the waves of water. People can read her thoughts. Hears the pounding of washing machinery and voices which wake her up at night. Is incoherent in her conversation. Has very gruesome and unpleasant delusions. Thinks that there is a washing machine in her head. Still in the hospital after two years and nine months.

Physical Condition: Good.

Alcohol: Not a factor.

Arteriosclerosis: No evidences of arteriosclerosis, although the peripheral tension seems somewhat increased. Blood pressure 132.

Diagnosis: Schizophrenic syndrome with a paranoid coloring, developing in a woman of 45 at the time of the menopause.

Case No. 49. A. O. Female.

Occupation: Housework.

Family History: Negative as far as known.

Mental Makeup: Thorough and conscientious. Neat and clean. Exacting and precise. Good mixer, jolly and happy. Of a care-free disposition, although she has not a large number of friends. Uncomplaining. Happy, as a rule, and not of a serious makeup.

Age on Admission: 52.

Previous Attacks: None.

Age at Onset: 50.

Psychosis: About two years before admission, complained of the neighbors living in her house. Said that they stole her furniture and house linen. Complained of this to the police. Also said that her food was being stolen. Thought people followed her on the street and that she was being persecuted by various persons. Said that people in the house cut holes in the floor so that they could stick hooks up from below and pull at her dress while she was walking around. Was also annoyed by a man who used a megaphone while talking about her. This man and his father shot pepper and acid all over her so that her face was burned. The bed got so hot sometimes at night that she had to get up and sit in a chair. Electric lights were also thrown upon her. Things have been stolen from her. Says she has been persecuted by a gang of about fifty men and women who want to get her furniture away from her. Although she moved four or five times, these people still followed her. Thinks they have already installed a machine in the ward. Would like to go to the court and show the public just what these people are. Disoriented as to time. Appears to have fairly good memory as to recent and remote past. School knowledge rather limited and poorly retained. There is no incoherence or confusion. Is rather inclined to be garrulous. Since coming to the hospital thinks that attempts have been made to murder her. Although she is quiet, as a rule, has been noisy at times and threatened to kill one of the doctors. Says someone cut her leg with a knife while she was asleep. Is quite suspicious and irritable. Men and women come into the rooms around the ward to hear her. She can hear them nearly every night. Insists that another patient is trying to poison her and throwing bismuth at her and putting her eyes out. Refuses to see her son and sister because she says they are responsible for keeping her here. Still at the hospital after two years and seven months and shows slight improvement in her condition.

Physical Condition: Good.

Alcohol: Not a factor.

Arteriosclerosis: No evidence of arteriosclerosis.

Diagnosis: Schizophrenic syndrone with a paranoid coloring, developing in a woman at the age of 50 and persisting after five years and seven months.

Case No. 50. A. Z. Female.

Occupation: Housework.

Family History: Negative as far as known.

Mental Makeup: Patient is said to have been of a cheerful disposition, not given to depressions, but did worry about household duties. Enjoyed association with friends and acquaintances.

Age on Admission: 50.

Previous Attacks: None.

Age at Onset: 49.

Psychosis: Developed after the death of a favorite nephew one year previous to admission. Went to the police and demanded an investigation, being suspicious as to the cause of his death. Finally concluded that there was nothing wrong about this. Then developed the idea that she had lost her soul and thought that people upstairs had bartered her soul off. Began praying a good deal and established an altar in the living room, before which she burned candles. Patient is oriented as to person and place and showed an excellent memory for remote past. Has had numerous hallucinations and many delusions of persecution based on these. Says her husband has deceived her. Is irritable and suspicious. Occasionally waves a white cloth in front of the ward windows as though signalling. Says that one of the patients has called her a Jew, although she is a Catholic. Claims to be the Virgin Mary. Says a nurse buried her alive. Shows very marked antipathy towards her husband. Insists that her soul has been consigned to hell. Has been excited and noisy at times since admission to the hospital. Refuses to see her husband when he comes to the institution. After a few months residence, changed her attitude and became very friendly and agreeable. Says she was frightened. Still shows marked antipathy towards her husband and still has some ideas of persecution. Several months after admission became extremely noisy. Still in the hospital after two years.

Physical Condition: Good.

Alcohol: No alcohol.

Arteriosclerosis: None.

Diagnosis: Schizophrenic syndrome developing in a woman of 49 and persisting after three years without any improvement.

Case No. 51. C. V. B. Female.

Occupation: Housework.

Family History: One brother has been at Westborough 15 years. Uncle is said to have been in an insane hospital in Ireland. No other information available.

Mental Makeup: Said that she was always suspicious and thought the worst of people. Always thought that men could not be depended upon. Was a good worker and over-honest. Her only reading was religious books. Sensitive and got angry easily. Was jealous of her children and kept them in the house constantly. Always warned her daughters not to trust the men. Was crazy about her husband, but always jealous of him. Said to have been superstitious.

Age on Admission: 55.

Previous Attacks: None.

Age at Onset: 45.

Psychosis: For ten years has been talking with fairies and ghosts. Used to see them every night and believed that they were around the house all the time. Menopause about seven years prior to admission. Dead children visited her frequently. The year before admission told her husband that he accused her of being immoral. Attempted to beat him. Since then she has accused him of all sorts of infidelity. Would not allow him in her room for months at a time. Went to church every day and burned candles in every room in the house. Thought he took money that was coming to her from Ireland and buried it in the neighbors' yards. For some time before admission said she was a mediator for God and especially blessed. Has quarreled with her husband frequently. Burned some of the curtains in the house and said she was going to leave by order of the Holy Father. Was taken to a hospital at this time by the police. Says a priest gave her husband $500 to put her in here, and that her children have always been with her ever since they died. Since admission has insisted on being called by her maiden name. Is quite irritable and suspicious. Has delusions of persecution about her husband. Well oriented as to time, place and person. No memory defects. Says she had twelve children, one of them a white baby which flew away and she never saw it again. Told her son that she would kill her husband and will not live with him any more. Refused to see him when he called. Says she can talk to Ireland. Has been violent at times. Accuses the nurses of persecuting her. Says she has been kidnapped. Claims now that her husband is dead. Thinks there is a magic thermometer which is used to draw blood from her. There is blood flowing in the streets and they are full of dope. Is incoherent in thought and expression. Says that her blood is sold for so much a glass. Also insists that her food is poisoned and that electricity has been used upon her. Is seclusive. Still shows active hallucinations. Still in the hospital after four years and eight months.

Physical Condition: Fair.

Alcohol: None.

Arteriosclerosis: Pupils contracted and do not react well. Evidently has a beginning arteriosclerosis.

Diagnosis: Schizophrenic Condition developing in a woman at the age of 45 at about the time of the menopause, which was completed at 47. Condition unimproved after approximately fifteen years.

Case No. 52. B. M. H. Female.

Occupation: Housework.

Family History: Negative as far as known.

Mental Makeup: Has always been a hard worker, a good housekeeper. Rarely left home except to go to church. Never makes much of the neighbors, although cheerful and affectionate. Has been quick tempered. Reads very little.

Age on Admission: 40.

Previous Attacks: None.

Age at Onset: 40.

Psychosis: A few weeks before admission developed the idea that the woman on the second floor was talking about her and calling her bad names. Thought people on the street also talked about her. Moved to another place to avoid this. Thought a woman was peeping through the windows at her. Became disagreeable and suspicious. Thinks now that people have been talking about her for two or three years. Oriented for time and place. Shows no memory impairment. Realizes that there has been something wrong with her and is somewhat anxious. Showed evidences of hallucinations of hearing in the hospital. Said she had been made a son of Almighty God through Father Sullivan. Has impulsive movements. Banged her head against the furniture. In the hospital after a year and a half. Shows no improvement.

Physical Condition: Good.

Alcohol: None.

Arteriosclerosis: None.

Psychosis: Schizophrenic syndrome developing in a woman of about 38, continuing for three and one-half years unimproved. Menopause not established.

Case No. 53. N. T. G. Female.

Occupation: Domestic.

Family History: Negative as far as can be determined.

Mental Makeup: Patient was cheery, always laughing, telling jokes, and was sociably inclined. Never nervous or sensitive. Interested in cards and moving pictures.

Age on Admission: 42.

Previous Attacks: One.

Age at Onset: 42.

Psychosis: Twelve years before admission, at the age of 30, had a mild depression lasting from four to six weeks. Prayed a good deal at that time. Was sensitive. Showed no evidence of hallucinations or delusions of persecution. Made a complete recovery and has been well until her present attack, which began shortly before admission, At this time said the other servants in the house had been annoying her by talking about her and rattling dishes and changing furniture, etc. Seemed depressed at first and was disoriented as a rule. Voices told her not to do things her sister had asked her to do. Said she could hear voices of the living and of the dead. Planned to avoid the physicians and other patients. Was irritable at times. Takes things belonging to other patients. Occasionally tries to run away. Later became noisy and scolded everyone about her. Has periods of laughing without any apparent reason. Spoken of as irritable, sullen and threatening. Said at one time that her side and ribs were broken. Commits assaults on other patients without any apparent provocation. It is thought that she is oriented, although she has but little to say. Seems to be very much deluded. At times exposes her person, removes her clothing. Later seemed to be disoriented again and was incoherent. Said this place was the Holy Cross Hospital, an office of the Penny Savings Bank. Still in the hospital after six and one-half years, apparently in a fairly advanced stage of deterioration.

Physical Condition: Good.

Alcohol: None.

Arteriosclerosis: No evidences of arteriosclerosis.

Diagnosis: A woman with a period of depression lasting for several months at the age of 30, who developed a fairly characteristic Schizophrenic Condition at the age of 42, continuing with some evidences of deterioration after six and one-half years.

Case No. 54. J. A. L. Female.

Occupation: Housewife.

Family History: Paternal grandmother insane late in life. An aunt said to be erratic. Has had one brother and a maternal cousin in another State hospital.

Mental Makeup: Patient is said to have been unusually levelheaded. Was cheerful and good-natured, although she was sensitive and her feelings easily hurt. Was affectionate and generous. Liked people, as a rule, and was easy to get on with and well liked by others. Enjoyed going to theatres and dancing.

Age on Admission: 44.

Previous Attacks: None.

Age at Onset: 44.

Psychosis: Shortly before admission was noticed to be absentminded. Had the idea that an uncle had left her money and went to a lawyer about it. Also thought she had wronged a cousin and said that a fictitious will had been put in place of a real one. Recently has thought that the school teachers were in league against her children. This was because the children got poor reports. Also thought the neighbors were leagued together to take her husband away from her. Accused her husband of having nine wives. Thought people in the street looked at her, and wondered why they did. Had several mild spells of depression and then began to hear imaginary voices which made her angry. For a while had a dread that something was going to happen to her and thought several months she was to be persecuted because she had consulted a lawyer. Said a neighbor had given her a poison pill. Well oriented for time, place and person, and memory for recent and remote events good. According to patient, the onset of her disease commenced when she was about 38, although her husband had noticed nothing until she was 44. Undoubtedly had hallucinations of hearing. Has been violent at times and is often quite irritable and abusive. Is very paranoid. Starved herself because she said that would starve the physician. Said there would be no more people buried alive. Saw the doctor chopping people up. Frequently noisy for considerable periods. Recently said that her insides had been taken out. She had been poisoned by the Masons. They tried to cut out her insides with scissors. Patient recently has been incoherent and quite deteriorated. Shows evidence of active hallucinations. Showed a marked deterioration after five years and nine months in the hospital.

Physical Condition: Fair.
Alcohol: None.
Arteriosclerosis: None.
Diagnosis: Schizophrenic Condition, paranoid type, in a woman, having its onset with the beginning of the menopause (of uncertain origin) about the age of 40, and progressing to a fairly advanced deterioration after approximately ten years.

Case No. 55. A. H. Female.
Occupation: Housework.
Family History: One paternal aunt had some mental trouble.
Mental Makeup: No information available.
Age on Admission: 54.
Previous Attacks: None as far as known.
Age at Onset: About 50.
Psychosis: Seemed to be perfectly normal until three years before admission. At that time she began to lose interest in her home and became unnaturally quiet, often staring into space. Thought someone was going to kill her and that something was to happen to her daughter, who she thought had become immoral. About a year before admission, became suspicious of her husband and said he was immoral. Said that the family would have to move or something would happen to them. Thought her own life was not safe. Frequently heard voices talking to her. Accused the neighbors of trying to take her husband away from her. Often got up at night and paced the floor, wringing her hands. Threatened to kill her husband to keep him from going with other women. On another occasion threatened to kill her daughter, saying that she had been upstairs with three or four men. Hears someone talking to her in the ceiling. Went to the police station and asked for help. Talks to imaginary persons outside of her window. Undoubtedly has hallucinations of hearing. Thought the night nurse wanted to kill her. Says some woman talks to her and annoys her. Becomes excited, shakes her fist and says threatening things. Says this woman killed her daughter. Does not seem to know where she is and is apathetic as well as incoherent. Says her name has been changed and she is no longer the wife of her husband. Frequently noisy and scolds the other patients in the ward. Is still in the hospital after five and one-half years. Shows no improvement.
Physical Condition: Fair.
Alcohol: None.
Arteriosclerosis: Beginning arcus senilis. Slight increase of arterial tension. Blood pressure 160.
Diagnosis: Schizophrenic Condition apparently developing in a woman at about the age of 50 and continuing with a mild deterioration after approximately nine years.

Case No. 56. C. A. I. Female.
Occupation: Saleswoman.
Family History: Negative as far as known.
Mental Makeup: Always easily embarrassed, sensitive and shy. Never went out much. Said that if anybody looked at her when she went to work anywhere she would give up the place. "I don't know what you'd call it; shame or something else." Inclined to be seclusive.
Age on Admission: 48.
Previous Attacks: None.
Age at Onset: 46.
Psychosis: After the death of her mother two years prior to admission, did not leave the house for nearly a year except to get food or take an occasional short walk. Says her mother was mentally unbalanced. Was depressed after her mother's death. Did not seem to know much about the funeral. Said, "The undertaker took her away and that is the last I saw of her." Did not attend her mother's funeral and is not certain as to where she is buried. Said she had

too many grievances and did not want to see anyone. Says that she talked to herself a good deal after her mother died. Has appeared apathetic and indifferent since her admission to the hospital. Very quiet and apparently takes no interest in anything. It is hard to tell whether she is depressed or not. Correctly oriented as to time, place and person. Shows no gross memory defect. No evidences of hallucinations or delusions. Is extremely inaccessible. Seems to be somewhat incoherent. Not willing to occupy herself. Usually mute when spoken to. Still in the hospital after two years and nine months. Shows no material improvement.

Physical Condition: Good.

Alcohol: None.

Arteriosclerosis: None.

Diagnosis: Schizophrenic Condition. Simple deteriorating process beginning in a woman of 46, two or three years prior to admission, unchanged after approximately five years.

An analysis of these cases shows that deterioration was often the ultimate outcome. This, of course, was often influenced by the appearance of arteriosclerosis and the advent of approaching senility. Hallucinations of hearing and vision were common. Delusions of persecution were frequent. Often there was disorientation, incoherence and impairment of memory and judgment. Insight was lacking almost invariably. Delusions of reference, persecution, poisoning and influence were common. Conduct disorders frequently occurred. Some of these patients were noisy and violent, while others showed mutism. Somatic ideas appeared in various cases. Emotional excitements and depressions were transitory and rare. Apathy and dulness were more frequent. Some of them were incoherent and several were subjected to tube-feeding. Silly and childish behavior were noted in some. Others were resistive, impulsive and showed mannerisms. Ideas of poisoning were common and sensations of electricity were often reported. Agitation and restlessness without apparent reason were very rare. Some were untidy in their habits. Clouding and confusion were noted at times. Paranoid trends were not systematized. Orientation varied from time to time. Irritability and resistiveness were common. Inaccessibility was a frequent symptom. There were very few suggestions of involution melancholia in any of these cases. Feelings of unreality were rarely encountered and there were few if any suicidal tendencies. As a rule, these are cases that would come within Bleuler's conception of schizophrenia and some of them would seem to harmonize with Kraepelin's ideas regarding late catatonias. Probably Kraepelin would classify some of them as paraphrenias. Very few of them were episodic in character and there was a prevalence of cases showing a long duration. I think they can all be excluded from the involution melancholia group.

Of these thirty cases, analyzed numerically, 24 showed delusions of persecution, 21 hallucinations of hearing, 16 ideas of reference, 16 were violent, 13 were irritable, 12 had delusions of poisoning, 11 were incoherent at times, 10 had delusions of electricity, 10 somatic delusions, 10 were depressed at times, 10 were occasionally noisy, 9 talked to themselves, 8 were inaccessible, 7 were deteriorated, 7 were disoriented, 6 showed apprehension or anxiety, 6 had delusions of jealousy or infidelity, 6 were destructive, 6 were seclusive, 5 had excited episodes, 5 were negativistic or resistive, 4 removed their clothing, 4 were noted as apathetic, 4 as untidy, 3 showed mannerisms, 3 showed mutism, 3 impulsiveness, 3 memory defects, 2 were tube fed, 2 showed stereotypy, 2 grimacing, one agitation, one cerea flexibilitas, and one suicidal attempts.

V

INVOLUTION MELANCHOLIA

Thirty-one cases were diagnosed as uncomplicated Involution Melancholia. Of these, fourteen were men and seventeen were women. Of the male cases, 3 showed mild schizoid trends in their makeup, and six were apparently normal individuals. No information was available regarding the remainder. In no instance were there previous attacks.

Only one case (age 40) developed before the age of 50. One began at 52, one at

53, one at 54, one at 55, one at 56, two at 57, four at 58, and two at 59. Only one of these cases is reported as having used alcohol to excess. All of them showed some evidence of arteriosclerosis, although it was of an advanced stage in two only. Of these men, eight died and three remain unimproved. One improved to such an extent as to warrant his going home after six months, one after one and one-half years, and one after 3 years. So far as known, none of them made complete recoveries.

Of the seventeen women, one showed definite paranoid suggestions in her makeup, one mild cycloid, and five schizoid tendencies, while six were apparently normal. In the remainder of the cases no information could be obtained. One case developed at the age of 42, two at 44, three at 45, one at 47, two at 49, two at 50, one at 54, one at 56, three at 58 and one at 59. Only two of these women used alcohol to excess, and the majority of them did not use at it all. Five showed a slight and four a moderate degree of arteriosclerosis. The rest were reported as having none. Nine of these women died; two have improved; four are unimproved; and two are so much better that they have gone home.

It has been thought worth while to present brief summaries of these cases, as follows: —

Case No. 57. S. B. Male.
Occupation: Storekeeper.
Family History: Negative as far as known.
Mental Makeup: Said to have been quiet but pleasant. Intelligent in his business, although very seclusive. Never had any blue spells or attacks of depression. No other information available.
Age on Admission: 53.
Previous Attacks: None.
Age at Onset: 52.
Psychosis: Lost his employment about a year before admission and gradually became sad and discouraged. Did nothing for about eight months. Seemed to be suspicious of everyone. Unable to sleep nights. Attempted suicide. Said people put things in his nose and eyes to injure him. His wife and all of his children had been killed and he does not know who killed them. Shows a decided emotional depression. Hears voices telling him they are going to put him in the ice to plague him. He is afraid that he will lose his life. Says his head bothers him. Believes that he is to be poisoned. Oriented for time, place and person. Memory somewhat confused for remote past but good for recent events. Said he was a disgrace to his family and wished that he could be poisoned. Said he had insulted his family. Accused himself of being lazy. Said they took his daughter's stomach out and put it in a bird. Wanted to die because he deserved it. Pounded himself on the face. Asked to be put in prison. Insisted that he was wicked. Died as a result of mitral regurgitation after having been in the hospital for eight months.
Physical Condition: Poor.
Alcohol: Did not use alcohol.
Arteriosclerosis: Moderate.
Diagnosis: Involution Melancholia developing in a man of 52, with a gradual depression, showing a duration of approximately two years, death occurring as a result of mitral disease.

Case No. 58. H. K. Male.
Occupation: Salesman.
Family History: Negative as far as known.
Mental Makeup: Was full of fun and liked a house full of company. Said to have been cheerful, lively and sociable. Had many friends and enjoyed their society. Never inclined to be domineering. Never had blue spells, and did not worry until the onset of his present attack. Said never to have been mistrustful nor suspicious.
Age on Admission: 40.
Previous Attacks: None.

Age at Onset: 40.

Psychosis: Became excited several months before admission. Said that he was to be sued on account of his dog having bitten a neighbor. Stayed awake all night muttering, "They will get me in jail." Talked of incurable diseases and spoke repeatedly of his stomach, heart and kidneys. Thought the doctors put poison in his food. Thought his wife had turned against him. Says he heard people talking about him while at the Psychopathic Hospital. In constant fear of some impending disaster. Orientation good. Memory fair. Judgment defective. No insight into his condition. He said at times that he thought he would be killed before midnight. Fears that he will never see his wife again. Has an appearance of agitation and apprehension. Afraid some harm is coming to his family. Is also afraid that he is to be operated on. Groans frequently and annoys other patients. Weeps loudly at times. Improved to such an extent that he was allowed to leave the hospital after three years.

Physical Condition: Fair.

Alcohol: Very moderate user.

Arteriosclerosis: Moderate thickening of radials. Blood pressure normal.

Diagnosis: Involution Melancholia, characterized by depression, restless agitation and apprehension, developing in a man at the age of 40 and improving to such an extent as to permit of his going home after three years.

Case No. 59. T. G. F. Male.

Occupation: Machinist.

Family History: Negative as far as known.

Mental Makeup: Has always been an ambitious man and anxious to advance, working at top speed. Never takes a vacation. Knows many people socially but has few friends and little company. Gets along well with his employers. No special amusements or relaxations. Is a regular church attendant. Very generous and devoted to his family.

Age on Admission: 57.

Previous Attacks: None.

Age at Onset: 57.

Psychosis: Began to worry two weeks before admission about his daughter, who had been in the Psychopathic Hospital three months. Was unable to finish a house he had started to build and the firm that his brother worked for failed. These things preyed upon his mind. Said he had lost everything and was going to die. On admission patient was confused, showed some difficulty in concentrating and evidences of agitation. Orientation correct as to time, place and person. Memory fairly good except for very recent events. Frequently exclaims, "Oh my God. Oh, it is terrible." Said he had an awful burning inside of him, but it was all coming to him because of what he did. Thought there was some kind of a film over his eyes. Was anxious, moaning and groaning most of the time. Said once he saw a man looking at him across the bed. Thought they were going to kill him. A colored man was to shoot him. Fears that some calamity might befall his family. Says that his present condition is a punishment for great sin. Improved considerably after six months and was allowed to go home against advice. Was discharged one year later. At this time he was said to be slightly depressed and somewhat inadequate.

Physical Condition: Fair.

Alcohol: Never used alcohol.

Arteriosclerosis: Very slight.

Diagnosis: Involution Melancholia developing in a man at the age of 57, improving in a striking way after six months and then subsiding into a mild form of depression which lasted for at least a year.

Case No. 60. C. L. S. Male.

Occupation: Musician.

Family History: Negative as far as known.

Mental Makeup: No information available.
Age on Admission: 59.
Previous Attacks: None.
Age at Onset: 59.
Psychosis: Some months before admission said to develop the idea that his wife did not like him and would turn him down. Bought a rubber tube which is thought to have been for suicidal purposes. Subsequently jumped from a second story window. Says he must have had a shock several months ago, because he was dizzy and had to go to a sanitarium for a while. Showed an emotional depression at the hospital. Thought that he was to be tortured at the City Hospital. Insists that he has syphilis, which is incurable and will kill him. Oriented as to time, place and person. Shows no memory defect. Says there is something wrong with his mind. Frequently says that his end may be expected at almost any moment. Says that his throat is paralyzed and that he has general paralysis. Thinks he cannot walk. Unable to eat, but does so when not observed. Says what he eats does him no good. Expects to die within twelve hours. Says his throat will admit only the tip of his finger. Eats to please the attendants although it will do him no good. Would be better off if he died. Rubs his hands together and picks at his face constantly. Wrote an agreement saying that he would guarantee to be dead inside of twelve hours, if allowed to go to bed. Died of myocarditis after four years and six months in the hospital.
Physical Condition: Poor.
Alcohol: Little, if any.
Arteriosclerosis: Moderate.
Diagnosis: Involution Melancholia developing in a man at the age of 59, terminating in death after four years and six months.

Case No. 61. F. W. L. Male.
Occupation: Janitor.
Family History: No accurate information available.
Mental Makeup: Said to have been a good student. Looked upon as intellectual and well informed. Has been an excellent banjo player. Much addicted to reading. Judgment has always been looked upon as reliable and trustworthy. Has been a periodic drinker. Was nervous, suspicious and jealous.
Age on Admission: 61.
Previous Attacks: None.
Age at Onset: Probably 58.
Psychosis: Three or four years prior to admission, became so melancholy that he gave up his job and walked the streets. After this, went to Long Island. Memory seems somewhat impaired and orientation is poor. Shows a marked self-accusatory trend, with ideas of unworthiness and impending doom. Says he has done everything he ought not to do and that he has had typhoid fever and syphilis as a result of cohabiting with women. Says he is facing death and can see no way out of it, but that he will die like a beast. Thinks he is covered with parasites. Asks the physicians repeatedly for some form of poison. Would like to finish his life. Claims to be absolutely worthless. Shows a decided emotional depression. Insists on being transferred to Bridgewater. Shows some retardation. Is sure of some fearful doom impending. No material improvement after two years and nine months. Still in the hospital.
Physical Condition: Good.
Alcohol: Moderate, at intervals.
Arteriosclerosis: Moderate.
Diagnosis: Involution Melancholia developing actively after three or four years of depression in a man of 61, and showing no marked improvement after two years and nine months in the hospital.

Case No. 62. W. S. Male.
Occupation: Clerk.
Family History: Negative as far as known.

Mental Makeup: No information available.
Age on Admission: 57.
Previous Attacks: None.
Age at Onset: 57.
Psychosis: Became depressed several weeks prior to admission, owing to his having lost a position which he had held for 19 years. Began to think he smelled gas in the house, and went around examining the gas jets. Moved his hands and feet in a restless manner. Talks of his past wrong-doing. Says that he is incurable. Cannot get his strength back. Thinks the attendants are going to drown him. Says: "The State authorities are trying to do away with me." Hears noises made by the water. This reminds him that he is to be destroyed. Oriented as to time, place and person. Memory seemed good. Asked to be allowed to die in peace. States that he used to hear voices but cannot tell what they said. Thinks he is unable to swallow and the food is not able to get to his stomach. Stops somewhere back of his breast-bone. Also thinks it is harmful for him to eat because his bowels will not move. Has a fixed idea that he cannot get well and would like to be six feet under the ground. Would also like to be put painlessly out of existence. Thinks he brought disgrace on his family. This is doubtless due to the fact that he was discharged for stealing from his employer. He is very careless about his appearance. When he hears other patients scold, thinks they are talking about him. Continued in a state of depression, saying that he has sinned and is being punished for it. Thinks part of his trouble may be due to not going to church. Remains in the hospital with very little if any change after three years and ten months.
Physical Condition: Fair.
Alcohol: Moderate user of alcohol.
Arteriosclerosis: Moderate.
Diagnosis: An emotional depression, Involution Melancholia, developing in a man of 57, characterized by ideas of sin, self-accusation; with a duration of three years; condition practically unchanged at the end of that time.

Case No. 63. G. H. W. Male.
Occupation: Sailmaker.
Family History: Negative as far as known.
Mental Makeup: No information available.
Age on Admission: 58.
Previous Attacks: None.
Age at Onset: 58.
Psychosis: A few months before admission, began to worry because he was out of work. Thought that he had done wrong. Was very restless. Showed no hallucinations. Well oriented and showed no memory defect. Thought there was some question of a conspiracy against him, and thought that the doctor was in league with others. Was very suspicious and irritable. Walked the floor constantly. Thought there was a plot to get rid of him. Did not sleep well. Said he had been accused of stealing. Was sure that the hospital authorities were planning to kill him or turn him out on the street. Thinks he is being punished in the hospital for stealing a short piece of rope. Believed that he was not being treated as the others were and that he had contracted barbers' itch at the hospital. Said the barber put something on his face. Showed no retardation. Thought his fruit was being given to others. Continued to be suspicious and apprehensive during his hospital residence and believed that others were plotting against him. Suspected that he was being poisoned and ate poorly. Said that he was all gone to pieces. Died as the result of bronchopneumonia after twenty-four days in the hospital.
Physical Condition: Poor.
Alcohol: Has been a moderate user for many years.
Arteriosclerosis: Had an advanced stage of arteriosclerosis.
Diagnosis: Involution Melancholia developing in a man of 58, terminating fatally in bronchopneumonia after a duration of seven months.

Case No. 64. J. W. L. Male.
Occupation: Shoemaker.
Family History: Nothing known.
Mental Makeup: No information available.
Age on Admission: 54.
Previous Attacks: None.
Age at Onset: 54.
Psychosis: Six months before admission began to have ideas of persecution and auditory hallucinations. At the same time showed a marked emotional depression. Attempted to commit suicide. On admission showed a marked degree of fear, agitation and apprehension. Said that he was coming here to be punished. Was particularly afraid of being given cold baths. Partially oriented for time and place. Memory seems fairly good. Thought he was to be poisoned. Wept and groaned a great deal of the time. Said people had been threatening to put him away for a good many years. Attempted to commit suicide after admission to the hospital. Frequently wept and asked the doctors to let him end his life. Was depressed and agitated for some time. Was afraid that someone was going to kill him. Improved to such an extent that he was allowed to go home after one year and six months. Condition much improved.
Physical Condition: Fair.
Alcohol: Used moderately.
Arteriosclerosis: Moderate.
Diagnosis: Involution Melancholia developing in a man of 54 and showing a marked improvement after one year and six months.

Case No. 65. P. M. B. Male.
Occupation: Elevator operator.
Family History: Negative as far as known.
Mental Makeup: Has always been quiet and retiring. Said to have been nervous, irritable and sensitive. Has always been somewhat seclusive and a poor talker. Never had any strong ambitions or constructive plans. Showed little self confidence. Has taken little, if any, interest in amusements or sports. Was given to long periods of brooding and worry over more or less minor matters and is said to have had frequent attacks of the blues.
Age on Admission: 55.
Previous Attacks: None.
Age at Onset: 55.
Psychosis: Had to give up his work six months before admission, as he felt tired and overworked. Was depressed at that time and was unable to sleep at night. Attempted suicide by slashing his throat. Worried over his family and their future. Was oriented as to time, place and person and showed no defects in his memory. Was coherent in his speech. Denies hallucinations of hearing or vision. Had various somatic sensations which occasionally caused him to worry. Thought one of his employers had framed him up. Said he had fought against his depressive ideas but believed that he could not get well. Became more depressed and apprehensive while in the hospital and said that he thought his wife and whole family would be killed owing to the fact that his bowels did not move for several days. Said that he had murdered himself because of the condition of his bowels and that he had lied repeatedly to his physician. Showed some retardation and often refused food. Believed himself to be unworthy. Showed considerable apprehension and restlessness. It subsequently became necessary to tube-feed him. Died as a result of bronchopneumonia after four months and ten days in the hospital.
Physical Condition: Poor.
Alcohol: Was a moderate user formerly.
Arteriosclerosis: Moderate.
Diagnosis: Involution Melancholia developing in a man of 55 and terminating fatally after five and one-half months.

Case No. 66. B. L. C. Male.
Occupation: Printer.
Family History: Negative as far as known.
Mental Makeup: Apparently a normal boy and always sociable. As a man had very few good friends, but seemed to be liked by all of his acquaintances. No other information available.
Age on Admission: 56.
Previous Attacks: None.
Age at Onset: 56.
Psychosis: Complained of nervousness and insomnia about three months before admission. Said he felt himself drifting. Shortly before admission, began to develop queer ideas. Thought that dope was being put into his bed to make him sleep and believed that a dictaphone was being installed in his house. Was afraid to shake hands with relatives, fearing that he would infect them with some dangerous disease. Was very remorseful about acts that he said he had committed and said that he wished he was dead. Was depressed and very suspicious on admission. Showed evidences of hallucinations. Said, "They are going to get me tonight. They won't put up with a man like me." Said he had some dread disease, probably gonorrhea or syphilis, although he could not say what it was. Said, "It is awful. What can be done?" Is well oriented as to time, place and person. Showed a good memory for both recent and remote past. Often thought that he would be killed during the night. Said he could hear them talk about getting rid of him. Had to be tube-fed after he had been at the hospital for a while. Made several active attempts at suicide by hurling himself against the walls of the room. Said that he would kill himself if he had a chance. Died of bronchopneumonia after a month and a half in the hospital.
Physical Condition: Poor.
Alcohol: Not used as far as known.
Arteriosclerosis: None present except in coronary vessels.
Diagnosis: Involution Melancholia developing in a man of 56 and terminating in death from bronchopneumonia after a duration of three months.

Case No. 67. R. F. Male.
Occupation: Salesman.
Family History: Father committed suicide by drowning at the age of 62. Otherwise negative as far as known.
Mental Makeup: Was of a cheerful, optimistic disposition. Fond of company and had a host of friends. Is said never to have been gloomy or depressed. Never subject to blue spells.
Age on Admission: 59.
Previous Attacks: None.
Age at Onset: 58.
Psychosis: Was depressed for about six months prior to admission and made several attempts to commit suicide. On admission showed a marked emotional depression, with considerable restlessness and agitation. Showed a considerable tendency to self-accusation, speaking of sins that he probably never committed. It was difficult to get him to eat and he had to be tube-fed for a time. Sh[illegible] some retardation. Believed that he was being punished by the Almig[illegible] terrible sins, but cannot tell what they are. Said it was better to [illegible] suicide than to have anyone so sinful in the world. Heard voices [illegible] about him. Moaned and groaned a great deal on admission. Said [illegible] would like to die. Felt that he was suffering from an incurable diseas[illegible] that his whole system was in trouble, especially his l[illegible] apparatus and his bowels. Talked constantly about his case being [illegible] Memory for remote and recent past seemed to be unimpaired and he [illegible] oriented. Says he wishes he was insane so that he would be more ch[illegible] Believed himself to be the greatest sinner on earth. Often groaned, rep[illegible] "Oh my God, my God!" and gritted his teeth. Imagined that he was he[illegible] be punished for the sin of attempting to commit suicide. Died as the result of chronic interstitial nephritis after one year and seven months in the hospital.

Physical Condition: Poor.
Alcohol: Used moderately.
Arteriosclerosis: Moderate.
Diagnosis: Involution Melancholia developing in a man of 58, terminated by death from nephritis after a duration of about three years.

Case No. 68. J. W. Male.
Occupation: Jeweler.
Family History: Negative as far as known.
Mental Makeup: Normal as far as known.
Age on Admission: 53.
Previous Attacks: None.
Age at Onset: 53.
Psychosis: Has been depressed for several months. Feels bad inside. Three weeks before admission, began to cry and yell at night. Said the devils were going to get him. Someone was going to take him up into the sky. Also heard voices out in the streets. Is said to have made noises like a dog during the night time. Was oriented and showed a fairly good memory. Was very depressed and apprehensive on admission and was occasionally quite agitated as well as noisy. Thought his whole family was to be killed. Moaned and groaned much of the time. Often said, "Don't kill me." Thought the relatives who visited him were not real and thought he was to be sent back to Russia. Said he wished to die. Cried occasionally. On several occasions had to be tube-fed. Reached the conclusion that all the members of his family were dead and that he was the only one left alive. Told someone that the hospital itself had disappeared. He did not know what had become of it. Showed agitation, apprehension and restlessness throughout the course of his disease. Died rather suddenly as the result of chronic endocarditis after nine months in the hospital.
Physical Condition: Poor.
Alcohol: Used moderately.
Arteriosclerosis: Fairly well advanced.
Diagnosis: Involution Melancholia developing in a man of 53, terminating in death after about ten months.

Case No. 69. W. J. L. Male.
Occupation: Gilder.
Family History: Negative as far as known.
Mental Makeup: Very quiet, although a good mixer with other men. Never interested in the opposite sex. Is extremely shy. Would not go to his brother's house for fear of meeting strangers. Had no ambitions and was perfectly satisfied with life as it was. Not irritable and never started an argument.
Age on Admission: 58.
Previous Attacks: None.
Age at Onset: 58.
Psychosis: Gave up work about 10 months before admission and said he was all run down and could not do anything more. For four or five months has felt that people were watching him in order to injure him. His dead sister appeared to him and threatened him. Has been afraid to sleep in the house alone. Saw people peeping in the windows and heard voices. Told his brother that people were going to put his eyes out. Has shown a marked emotional depression for some time and was brought to the hospital on account [illegible] the fear of suicide. Was well oriented and showed no memory defect. On admission patient was extremely agitated and depressed. Has a fear of some impending disaster. Said he was brought here in order that he might suffer and that he was going out in a box. Cried a great deal at times. Thought neighbors put powders in his bed at night, which prevented his sleeping. Moaned so audibly as to disturb other patients. Thinks his brother had him brought to the hospital to be killed. Said he was to be put on a hot iron grating and burned to death at night. Believed that his brother wanted to get his

money. Said he was just as good as a dead man. Sometimes thought he was to be cut up alive. Was very restless, as a rule. Died after two months, as a result of a cerebral hemorrhage.

Physical Condition: Fair.

Alcohol: Used alcohol for many years, much of the time to excess.

Arteriosclerosis: Moderate.

Diagnosis: Involution Melancholia developing in a man of 58, terminating after a few months in death due to cerebral hemorrhage.

Case No. 70. G. H. A. Male.

Occupation: Hatter.

Family History: Negative as far as known, except that all members of the family are said to have been nervous.

Mental Makeup: Normal as far as known.

Age on Admission: 59.

Previous Attacks: None.

Age at Onset: 59.

Psychosis: Became depressed shortly before admission, as a result of trouble at the place where he was employed. Talks constantly of sins which he has committed from time to time. Thought someone was going to arrest him. Thought all of his family would be arrested. Thinks he has made a lot of trouble for many people. Gave every indication of depression, agitation and apprehension for many months, but was inaccessible and would not talk to physicians. Walked up and down the ward restlessly. Very difficult to gain his attention. Picks restlessly at his face. Passes his hands through his hair. Later, was disoriented as to time and place. Seemed to show some memory impairment. Still in the hospital after three years and one month and shows no material improvement.

Physical Condition: Fair.

Alcohol: Moderate.

Arteriosclerosis: Shows evidence of beginning arteriosclerosis.

Diagnosis: Emotional depression, probably Involution Melancholia, developing in a man at 59, and continuing after three years with some evidences of deterioration due to arteriosclerotic complications.

Case No. 71. R. S. Female.

Occupation: Factory worker.

Family History: Paternal grandfather was in a hospital for the insane. One sister was at the Taunton State Hospital.

Mental Makeup: Patient led a quiet, uneventful life. Cared little for anyone or anything. Disliked being with people and had no amusements except playing the piano and the phonograph. Was very particular about the housework and would not agree to what her mother wanted. Did not want her mother to go out or have any people at the house.

Age on Admission: 45.

Previous Attacks: None.

Age at Onset: 45.

Psychosis: Stopped working several weeks before admission because people talked about her and because her body smelled so badly. Patient has had many changeable delusions of a persecutory nature, apparently based on hallucinations of smell, taste, hearing and vision. Has been suspicious and irritable. Says that they are going to poison her and kill her and that she had just as soon die. Would not eat food because it was covered with poison. Remote memory was good, although somewhat confused the last few weeks. Fairly well oriented. Without any insight into her condition. Patient thinks all of her property has been taken away from her. Thinks patients talked about her family at night. Appeared to be despondent. Cried frequently. Sometimes self-accusatory and thinks that she needs punishment; at any rate, whatever treatment is prescribed for her will be accepted as part of her duty. Hears people say, "Let her suffer." They also call her an adulterer. Has an anxious expression as a rule, and often cries. After two years was transferred, unimproved, to another hospital.

Physical Condition: Fair.

Alcohol: None.

Arteriosclerosis: None.

Diagnosis: Involution Melancholia beginning in a woman of 45 shortly after the menopause and continuing unchanged after two years.

Case No. 72. T. F. J. Female.

Occupation: Housewife.

Family History: Negative as far as known.

Mental Makeup: Patient is said to have been affectionate and good-natured. Was happy as a rule and showed no periods of depression. Never was nervous or hysterical, although she would talk back if people said things she didn't like. Otherwise, was easy to get on with. Was a good housekeeper. Liked to visit with others, although she had few friends. Went to the theatre rarely and had few recreations.

Age on Admission: 44.

Previous Attacks: None.

Age at Onset: 44.

Psychosis: About nine months before admission, became depressed as the result of the death of a son, who died while she was still in bed, sick with influenza and pneumonia. After her recovery she was much depressed and talked about her son nearly all the time. Three or four weeks before admission, she began to go to church several times a day. Said she did it for her good. Was heard to say: "My little darling is an angel. He is God and I am the mother of God." Is restless and continually at work at something. Began to think the woman next door looked at her. Suddenly began to scream, the night before admission. Said she was going to heaven. Made so much noise that a crowd gathered in the street. Was taken to the Psychopathic Hospital. Was considerably emaciated on admission. Was much excited and spoke of seeing visions. Was very actively hallucinated. Is disoriented and confused and has some clouding of consciousness. Also seemed to be incoherent. Was noisy, restless and excited for some time. Was quiet on admission to this institution and was very poorly nourished. Was not very accessible. Did not know where she was or why she was here except that she said she had been sick. Said that recently she had been having communion with God. Her depression was very noticeable and continued until the last. Eventually she became mute and took so little nourishment that tube-feeding had to be resorted to. Died of tuberculosis about five months after admission.

Physical Condition: Poor. Tuberculosis following influenza.

Alcohol: None.

Arteriosclerosis: None.

Diagnosis: Involution Melancholia developing in a woman of 44 after influenza. Death occurred from tuberculosis after about one year and two months.

Case No. 73. B. M. Female.

Occupation: Housework.

Family History: No information available.

Mental Makeup: Patient always stayed at home. Made few friends, although she was sociably inclined, and never cared much for visiting. Was a faithful attendant at church. Recently has been suspicious, although previously cheerful and happy.

Age on Admission: 47.

Previous Attacks: None.

Age at Onset: 47.

Psychosis: Three months prior to admission, moved out of her house because she thought the neighbors were talking about her. Said they were trying to injure her and wanted to put her out of the way. Also thought that they wanted to set her house on fire. Turned the gas on three times in an attempt to commit suicide. Later, thought the whole family was to be put away. Tried to throw herself from the roof of the house. Obviously had hallucinations of vision. Was confused or dazed while at the Psychopathic Hospital, and was not well oriented, although her previous memory seemed to be good. Emotional tone at the hospital was one of dejection, depression and anxiety; the patient wringing her hands, moaning and striking at herself. Did not seem to be retarded. Expected to be killed. Was somewhat stereotyped in expression. During her residence at the hospital showed depression, agitation and restlessness, with self-accusations and some paranoid ideas about the physicians. Still in the hospital, after one year and six months, but shows some improvement.

Physical Condition: Fair.

Alcohol: None.

Arteriosclerosis: Moderate.

Diagnosis: Involution Melancholia developing some time after the menopause in a woman of 47, and showing some improvement after a year and a half, although not well enough to leave the hospital.

Case No. 74. M. A. C. Female.

Occupation: Housewife.

Family History: Negative as far as known.

Mental Makeup: Apparently of a low intellectual level. No other information available. Pleasant, cheerful and good-natured. Feelings were easily hurt, although she liked other people as a rule.

Age on Admission: 58.

Previous Attacks: None.

Age at Onset: 58.

Psychosis: Was depressed for several months previous to admission. Worried for fear she would not go to heaven and that she had been a wicked and sinful woman. Would like to die and seriously considered suicide. Showed no retardation. Heard accusing voices at times. Pupils unequal; somewhat sluggish in their reaction. Slight tremors of the tongue. Was oriented as to time, place and person. Memory was rather poor. Says she was never any good and that if she had been virtuous she would not be here now. The devil told her that she had lost her soul and was to be damned and that her children would also be damned. Even the Pope could not save her. Early in the psychosis showed no hallucinations. Was restless and agitated at times. After five months in the hospital, was allowed to go out on trial visit and was discharged after one year. Came back to the hospital after two years with a history of having been depressed for several months. Was depressed and agitated on admission, as well as self-accusatory, still speaking of mortal sins. Feared that she would be burned up in chloride of lime. Was only partially oriented as to time. Was stereotyped in expression again and very restless. Thinks that she was the cause of the late war and that her sins would be responsible for the death of every baby born. Later became much agitated and would not keep her clothes on. Said she could see the fire that was going to burn her. At this time she was well oriented and seemed to have a good memory. Still in the hospital after five years and five months from the time of onset.

Physical Condition: Poor.

Alcohol: Is said to have used beer and whiskey, probably to excess, as she was arrested at least once.

Arteriosclerosis: There is very little evidence, if any, of beginning arteriosclerosis.

Diagnosis: Involution Melancholia developing in a woman at 58, about seven years after the menopause, and continuing without any marked improvement but with little deterioration after five and one-half years.

Case No. 75. M. M. G. Female.

Occupation. Dressmaker.

Family History: Negative as far as known.

Mental Makeup: Always of a cheerful disposition. Quiet, thrifty, a hard worker, and well liked by all of her friends. No other information available.

Age on Admission: 50.

Previous Attacks: None.

Age at Onset: 50.

Psychosis: Four months prior to admission, patient lost a good deal of sleep while taking care of a sister who was ill. Also ate poorly. After three months, began to grow nervous, stopped working, and was peculiar, restless and agitated, cried a great deal and has been self-accusatory. Thought that a part of her spine was gone, on account of having a pain in her back. Also thought her rectum and kidneys were displaced. There have been no delusions of persecution and no hallucinations, according to her history. On admission the patient said that her soul was lost for ever and ever. She believed that certain men intended to butcher her and cut her to pieces. Said she was a disgrace to her name. Was oriented for time and place. Seemed to have no impairment of memory. Was very restless while in the hospital and picked constantly at her fingers. Showed considerable agitation and self-accusation and was fearful that some harm would come to her. At times showed ideas of unreality. Said she could not eat because she had no stomach and no heart. Wandered about the ward groaning and repeating, "Oh my God! What shall I do? My soul is lost." Said that she was kept in an imaginary house with imaginary walls and that she had an imaginary body. Asked the physician to open an imaginary door and let her out. These ideas persisted for months. Became very stereotyped in her expressions. After three years and four months in the hospital, improved to such an extent that she was allowed to go home, and has remained there for one year.

Physical Condition: Fair.

Alcohol: None.

Arteriosclerosis: Increased peripheral tension. Blood pressure 180. Beginning arteriosclerosis.

Diagnosis: Involution Melancholia beginning at the age of 50 in a woman one year after the menopause. Discharged much improved, if not recovered, after five years duration.

Case No. 76. M. F. S. Female.

Occupation: Clerk.

Family History: Negative as far as known.

Mental Makeup: No information available.

Age on Admission: 50.

Previous Attacks: Said to have had a breakdown at the age of 32, when she felt tired, and had difficulty in retaining food in her stomach. No accurate information as to the nature of this episode.

Age at Onset: 49.

Psychosis: One year before admission, noticed that people were trying to make things disagreeable for her. Left several places because propaganda was started. People whispered about her and made it so difficult that she was unable to continue her work. They called her unpleasant names. Had a tight feeling around her head. Was depressed and felt discouraged and had a sort of a dead feeling. On admission, was apparently depressed and confused. Kept to herself and talked of hearing voices and whisperings. Muttered to herself at times. Picked constantly at her fingers. Was unable to control her bladder. Picked at her chin with a pin. Walked up and down restlessly all day long. Very depressed and restless. Had to be dressed in a camisole to keep her from injuring her face and hands. On seeing a doctor, constantly repeated, "Can I go home today?" Told her sister she was ill-treated at the hospital and was being punished here. Hands finally became infected from her picking at them. Developed symptoms of central neuritis. Her family was allowed to take her home, where she died ten days later.

Physical Condition: Dead.

Alcohol: None.

Arteriosclerosis: None.

Diagnosis: Involution Melancholia. An agitated depression developing in a woman at 49. Some question as to previous attack some years before.

Case No. 77. D. G. Female.

Occupation: Housewife.

Family History: Negative as far as known.

Mental Makeup: Patient has had, on the whole, an even, quiet disposition, but was hot-headed at times. This lasted for a few minutes only, and she never cherished a grouch. Friendly with the neighbors but has not been intimate with anyone, because seeing people would cost her money. For the same reason, never went to the movies or theatre. An excellent housekeeper. Former employer said she was hot-headed and easily upset. Was never much of a talker.

Age on Admission: 45.

Previous Attacks: None.

Age at Onset: 45 (two and one-half months prior to admission).

Psychosis: On admission to the hospital, showed marked depression, agitation and fear, with stereotypy in her expressions. Apparently oriented and seemed to have good memory. Denied hallucinations, although she talked constantly about forms which she could see about her. Asked to be allowed to leave so that she could be eaten up outside. Kept repeating that there was no such thing as a hospital, no such thing as a hospital. Had a feeling of unreality. Said she was only here a few minutes, but it seemed a long time. Her heart is broken. Continued to be restless, agitated and depressed as well as noisy at times. Attempted to commit suicide. Said later that she could hear the devil talking to her. Cried and moaned much of the time. Was untidy in her habits. No material improvement in her condition after two years and six months.

Physical Condition: Fair.

Alcohol: None.

Arteriosclerosis: None.

Diagnosis: Involution Melancholia, occurring in a woman of 45, several years after the menopause. No improvement after duration of approximately three years.

Case No. 78. R. H. Female.

Occupation: Housewife.

Family History: Negative as far as can be ascertained.

Mental Makeup: Always said to have been a quiet sort of person, a good housekeeper. Was good-natured and kind. No other information available.

Age on Admission: 42.

Previous Attacks: None.

Age at Onset: 42.

Psychosis: A few weeks before admission began to show a great deal of excitement and apprehension. Thought she heard voices talking and someone was going to be killed. Afraid her husband was going to injure her with a knife. Thought there was poison in her food and was quite fearful for several days before coming to the hospital and is said to have been somewhat confused. Patient was obviously apprehensive, excited and confused on coming to the hospital, in spite of language difficulties. Admitted that she was depressed because a friend was killed and her babies had died. Seemed to be disoriented as to time and place. Apparently markedly prostrated. Refused to eat and had to be tube-fed. Seemed to be incoherent. Physical condition grew gradually worse, and the patient died of bronchopneumonia one year after admission.

Physical Condition: Poor.

Alcohol: None.

Arteriosclerosis: No evidences of any peripheral sclerosis, although blood pressure was 190.

Diagnosis: Psychosis diagnosed as Involution Melancholia developing in a woman of 42 and terminating in death after one year, as the result of pulmonary complications.

Case No. 79. M. N. Female.
Occupation: Housewife.
Family History: Very little information available.
Mental Makeup: Patient is spoken of as always having been quite devoted to her home and family but not inclined to form or retain outside interests. Has always worked hard. Thought to worry more or less about her physical condition, which was probably due to the menopause, three years before admission.
Age on Admission: 50.
Previous Attacks: None.
Age at Onset: 49.
Psychosis: Became depressed on account of her health. Shortly before admission became agitated and apprehensive. Refused food for the purpose of starving herself, and threatened to drink brass polish with suicidal intent. On admission was in tears and moaning, asking to be taken home. Wandered constantly about the room. Talked about going to a crazy house. Constantly repeated, "Oh God, Oh God!" wringing her hands and asking to be left alone. Thought someone was going to kill her. Memory seemed much impaired and she was disoriented. Condition was characterized by an agitated depression, with moaning and groaning. Was resistive at times. Ate very poorly. Was often noisy. Cleared up later and seemed to be oriented. Agitation diminished to such an extent that she was discharged after one year and eight months. Her condition at that time was somewhat improved, although she was still apathetic and rather quiet.
Physical Condition: Poor.
Alcohol: Probably did not use alcohol.
Arteriosclerosis: Slight.
Diagnosis: Involution Melancholia developing in a woman at 49, after the menopause, and showing marked improvement after a probable duration of two years.

Case No. 80. C. A. C. Female.
Occupation: Housewife.
Family History: Negative as far as known.
Mental Makeup: Is said to have been a calm, easy-going person, inclined to keep to herself, although friendly with others. Neat, clean and energetic. Was accustomed to drink occasionally but never to the extent of intoxication. Was not very thrifty and gave a good deal of money away. No other information available.
Age on Admission: 59.
Previous Attacks: None.
Age at Onset: 59.
Psychosis: Became depressed several months before admission. Thought somebody had bought the house she lived in and that she was to be turned out. Thought the Board of Health had ordered her to leave. Memory for recent events seemed to be poor. Thought a new girl in the neighborhood was backbiting and taking away her character. Seemed to be in terror at times. Was thought to be going through the menopause at the time. Was somewhat confused. Was much depressed, restless and agitated on coming to the hospital, and said, "They are going to kill me for the wrongs I have done." Expected to be kicked out. Said her husband was going to put her out of the way with an axe. Thought people were talking about her. Thought she would be kicked all to pieces and said that she wanted to die. Gave the year correctly but was not able to give the date of the month nor the name of the month. Went about the ward constantly, moaning and wringing her hands. Thought surely some harm was coming to her. Thought it was not worth while to eat

as she was going to die so soon. Had to be tube-fed much of the time, as she desired to starve herself to death. Died after five months in the hospital as a result of chronic myocarditis.

Physical Condition: Poor.

Alcohol: Used moderately.

Arteriosclerosis: Slight.

Diagnosis: Involution Melancholia in a woman of 59 who was said to have been going through the menopause at the time, terminating in death after a duration of eight months.

Case No. 81. S. D. Female.

Occupation: Housewife.

Family History: No information available.

Mental Makeup: Patient has always been lively, sociable and cheerful, and enjoyed singing and dancing. No other information available.

Age on Admission: 56.

Previous Attacks: None.

Age at Onset: 56.

Psychosis: Has acted strangely for seven or eight months prior to admission and following the death of her husband. Paced the floor all night. Thought she had all kinds of ailments. Said she had a tumor in her head and also in her stomach; also that her head and feet were swollen. Complained that her bowels were stopped up. Said that her false teeth were the cause of all her trouble. Could not eat because her jaws were always cracking and breaking. Later, said she had no mouth and would not eat. Was very much agitated and depressed. Seemed to be oriented for time, place and person and showed fairly good memory. Was sure she would never get well and said that she had an incurable disease. Was very restless while in the hospital and noisy at times. Had to be tube-fed. Died after two months in the hospital as a result of myocarditis, without any change in her mental condition.

Physical Condition: Poor.

Alcohol: None used as far as known.

Arteriosclerosis: Slight.

Diagnosis: Involution Melancholia developing in a woman at 56, twelve years after the menopause, and terminating in death after about ten months.

Case No. 82. I. F. Female.

Occupation: None.

Family History: No information available.

Mental Makeup: No information available.

Age on Admission: 58.

Previous Attacks: None.

Age at Onset: 58.

Psychosis: Became worried a short time before admission. Seemed dazed, and kept asking, "Where am I?" Thinks operations done on her were for experimental purposes. On admission was very much depressed. Cried occasionally. Seemed to be disoriented; somewhat confused. Had to be tube-fed during the greater part of the time. Thought that her daughter and two sons had been killed at the hospital and that her family had lost all their money. Has heard her children screaming and says they are being abused. Wanders up and down restlessly. Becomes excited and agitated. Rattles the doors; talks out the windows. Showed a desire to commit suicide. Became very resistive. Speaks in stereotyped expressions. Often runs around the ward screaming for hours at a time. Thought the place was burning up. Frequently wrings her hands and rubs her face while walking rapidly up and down the ward. Often noisy at night. Was taken from the hospital against advice. Showed no marked improvement after one year and seven months.

Physical Condition: Poor.

Alcohol: None.

Arteriosclerosis: Slight.

Diagnosis: Involution Melancholia developing in a woman of 58, showing no improvement after one year and nine months.

Case No. 83. M. R. G. Female.
Occupation: Domestic.
Family History: Negative as far as known.
Mental Makeup: Patient worried a great deal and took things very seriously, but never had any definite depressions. Had few friends, but was not looked upon as being suspicious or seclusive.
Age on Admission: 54.
Previous Attacks: None.
Age at Onset: 54.
Psychosis: Developed several months before admission. Assumed peculiar attitudes when brought to the hospital. Kept repeating certain phrases. "I didn't do right. I didn't do right." Claimed that she had never done right. When asked if she got drunk, said she got drunk on everything. Was very self-accusatory, restless and agitated. Showed a marked emotional depression. Was very restless, wringing her hands, drumming on the table and beating her breast. Showed marked apprehension. Said her boys were sent away because she did not do right. Afraid she will be taken away but does not know where. Said she wanted to starve to death. Had to be tube-fed. Developed bronchopneumonia and died three months after admission.
Physical Condition: Poor.
Alcohol: Unknown.
Arteriosclerosis: Slight, if any.
Diagnosis: Involution Melancholia developing in a woman of 54, several months before admission, with a total duration of seven to eight months.

Case No. 84. E. F. G. Female.
Occupation: Domestic.
Family History: No information available.
Mental Makeup: No information available.
Age on Admission: 45.
Previous Attacks: None known.
Age at Onset: 45.
Psychosis: Of recent development. Patient shows emotional depression, agitation and self-accusation, and groans repeatedly. Said that someone had put chloroform on her teeth. She could smell it through the air. Exhibited a constant fear of death. Was somewhat confused, although as a rule oriented as to time, place and person, and showing no memory defects. Untidy and resistive. Had to be tube-fed. Developed bronchopneumonia and died after about two months residence in the hospital.
Physical Condition : Poor.
Alcohol: None known.
Arteriosclerosis: None.
Diagnosis: Involution Melancholia developing in a woman of 45, about two months prior to admission, with a duration of four months in all, and terminating in death from bronchopneumonia.

Case No. 85. E. L. Female.
Occupation: Domestic.
Family History: Negative as far as can be determined.
Mental Makeup: Was always quiet and very sensitive when spoken to harshly. Said to have been easily disturbed. Read the newspapers, but was not much interested in books. A very good worker. No other information available.
Age on Admission: 50.
Previous Attacks: None.
Age at Onset: 50.
Psychosis: One month prior to admission, began to feel tired all the time. Was unable to do her work. Slight noises disturbed her and she could not talk to

people. Shortly afterwards, began to fear that she was going to die. Says she feels terrible. It seems as though the skin was separating from the meat. Also complained that her throat felt queer. "The food slips down for a while and then seems to run out of me. I wish I could feel like a human being." Is oriented as to time and place. Seemed to have a good memory. Thought her false teeth were saying that she did not need to eat. Has numerous somatic sensations. Was passing through the menopause while at the hospital. Is markedly depressed and restless. Wants to be buried at the hospital. Has ideas of impending doom. Said, "Don't put me in the tank. The souls in the aquarium. I cannot clear what I have done and it would be an awful punishment to hear them yell." Says they have thrown terrible stuff on her. Said that dogs and cats were inside of her. Failed rapidly physically as a result of tuberculosis and died ten months after admission.

Physical Condition: Poor.

Alcohol: None.

Arteriosclerosis: None.

Diagnosis: Involution Melancholia developing in a woman of 50, during the menopause, and terminating in about eleven months in death as a result of tuberculosis.

Case No. 86. R. M. Female.

Occupation: Housewife.

Family History: No information available.

Mental Makeup: Nothing known regarding makeup.

Age on Admission: 44.

Previous Attacks: None.

Age at Onset: 44.

Psychosis: Began to worry about a month before admission. Thought that they were unable to pay the rent. Became very restless. Said she ought not to eat because the food belonged to the landlord. Was agitated and apprehensive. Walked the floor constantly. Said her children were clean and she was dirty. Was afraid that something was going to happen to her. Said the same things over and over again, often repeating, "I was all right once. I was all right once." Was very resistive and objected to taking nourishment. Pounded her head on the wall and on the doors. Also pulled out her hair. Died of myocarditis after two weeks in the hospital.

Physical Condition: Poor.

Alcohol: None.

Arteriosclerosis: None.

Diagnosis: Involution Melancholia developing in a woman of 44, during the course of the menopause, terminating in death from myocarditis after two and one-half months.

Case No. 87. N. R. M. Female.

Occupation: Domestic.

Family History: Had a sister who died at the Boston State Hospital as a result of involution melancholia.

Mental Makeup: Patient is said to have always been nervous and somewhat worried. This led her to drinking. Had no attacks of special depression. Was not irritable. Said to have been an efficient housekeeper and made friends with the neighbors. Almost certainly had paranoid makeup.

Age on Admission: 58.

Previous Attacks: None.

Age at Onset: 58.

Psychosis: Several months before admission made two attempts at suicide. Said that she was worried because she lost her sister and her mother. Was also troubled about a quarrel between her parents. Picked at her face constantly. Cried frequently. Was oriented as to time, place and person. Memory was fairly good. Was rather inaccessible at the hospital. Seemed to have paranoid ideas about the judge of the community. Improved to such an extent that she was allowed to leave the hospital after three years.

Physical Condition: Poor.

Alcohol: Used alcohol extensively. Arrested for drunkenness several times.

Arteriosclerosis: Moderate.

Diagnosis: Involution Melancholia developing in a woman at the age of 58, improving enough to leave the hospital after three years.

VI

SINGLE ATTACKS OF EXCITEMENT

A small group of cases was found which shows definite attacks of manic excitement appearing for the first time between the ages of forty and sixty. It is interesting to note that all of these were women. All were cases showing a normal make-up as far as could be determined. In two cases the psychosis developed at 42 years of age, two at 43, one at 45 and one at 58. In no instance were there any previous attacks. Three of these cases terminated in death owing to intercurrent diseases; two made complete recoveries; and we have been unable to obtain any information regarding the remaining case, which had very markedly improved on leaving the hospital. These cases may be briefly summarized as follows: —

Case No. 88. M. A. P. Female.

Occcupation: Actress.

Family History: Negative as far as can be determined.

Mental Makeup: Interested in reading and looked upon as being unusually well informed. Was regarded as a normal individual, although little information is available.

Age on Admission: 43.

Previous Attacks: None.

Age at Onset: 43.

Psychosis: Was noticed as acting queerly a short time before admission. Became suspicious of everyone. Spoke a great deal of signs and sign language and had a book on this subject. Thought the landlady was trying to hypnotize her or cast a spell on her. Spoke later of having had communications from her dead mother and brother. Soon became noisy, grinding her teeth; wanted to dance and sing. Developed the idea that she was married and was about to have a baby. Was nervous, restless and very impatient. Is also spoken of as having been noisy at times. On admission to the hospital, showed a marked manic condition. Was restless, noisy, extremely talkative, laughed easily, showed a distinct flight of ideas and was unable to carry on any connected conversation. Improved steadily as a result of continuous bath treatment. Improved to such an extent that she was able to leave the hospital after a residence of a little more than one month. Continued to be in excellent condition, and was discharged after one year's visit.

Physical Condition: Good.

Alcohol: Very little alcohol ever used.

Arteriosclerosis: No evidence of arteriosclerosis.

Diagnosis: Manic attack in a woman of 43, of brief duration and terminating in recovery.

Case No. 89. A. F. Female.

Occupation: Housewife.

Family History: Negative as far as known.

Mental Makeup: Happy and cheerful disposition. Made friends easily and got along well with people. Normal as far as known.

Age on Admission: 45.

Previous Attacks: None.

Age at Onset: 45.

Psychosis: Began acting queerly two days before admission. Talked in her sleep. Became excited rather suddenly, waving her arms about, banging on the windows and finally breaking the glass. Laughed and cried at intervals. Quieted down after several hours at the Psychopathic Hospital, but burst out laughing suddenly again and commenced to sing, moving her body from side to side. Seemed to be distractible. Gesticulated violently. Was unable to answer questions and seemed to be disoriented and confused, although she could give the date and place of her birth. Had some knowledge of her past. Seemed to have a genuine flight of ideas and much psychomotor activity. When admitted to the Boston State Hospital was destructive and tore her clothing and blankets. Threw the food on the floor when it was brought to her room. Tried to kick and strike the nurses. Was irritable, excited and restless. Talked constantly. Died one week after admission as a result of a valvular heart disease.

Physical Condition: Poor.

Alcohol: None used as far as could be determined.

Arteriosclerosis: No evidences of arteriosclerosis.

Diagnosis: Acute manic condition of sudden origin in a woman of 45, terminating very shortly in death from mitral disease.

Case No. 90. M. S. Female.

Occupation: Domestic.

Family History: Negative as far as can be determined.

Mental Makeup: Said to have been bright in school and always seemed to be of a happy frame of mind, and sociable. Was a very active worker and interested in recreations. Said to have been easily upset and very sensitive. Apt to cry when people crossed her and when things went wrong.

Age on Admission: 58.

Previous Attacks: None.

Age at Onset: 58.

Psychosis: One week before admission, became frightened. Thought someone was going to kill her. Said some man was after her, and thought that the neighbors had it in for her. Talked of detectives being in the house. Said a man was going to leave a bomb in the yard. Became excited, slept but little, and was violent. At the Psychopathic Hospital was resistive, soiled the room, refused to keep her clothes on, and rolled about on the floor. Talked rapidly but spoke no English. Seemed to be greatly frightened. Was too disturbed to be kept in continuous bath. Resisted violently whenever the nurses attempted to go into her room. Was very violent and resistive when brought to the Boston State Hospital. No clothing could be kept on her. Very noisy and seemed to be confused. Died four days after admission from myocarditis and exhaustion.

Physical Condition: Poor.

Alcohol: None.

Arteriosclerosis: None apparent.

Diagnosis: Acute manic attack suggesting a delirious episode, in a woman of 58, terminating in death from myocarditis and exhaustion after four days in the hospital.

Case No. 91. M. K. Female.

Occupation: Housework.

Family History: Negative as far as known.

Mental Makeup: Was quick-tempered, full of fun, always joking. Temperate in her habits. No other information available.

Age on Admission: 42.

Previous Attacks: None.

Age at Onset: 42.

Psychosis: Four weeks before admission became excited. Said she was dying and sent for a priest. On admission to the hospital was very talkative. Somewhat resistive. Rather distractible and seemed somewhat confused and appeared to be incoherent. Said she was a raving maniac. At times clapped her hands and sang; at other times seemed slightly depressed, although she said she was happy. At other times said she felt like crying. Seemed to think that she tasted something in the drinking water. No hallucinations definitely elicited. Fairly well oriented. Seemed to have vague delusions regarding her husband and gave the impression at times that she thought the devil was after her. Memory for past events seemed to be good. Was noisy and excitable while in the hospital. Removed her clothing. Clapped her hands. Shouted; sang; was resistive and violent at times. Patient had carious teeth. Two weeks after admission, developed an acute purulent peritonitis and died within a few days of exhaustion.

Physical Condition: Good on admission.

Alcohol: No history of alcohol.

Arteriosclerosis: No evidence of arteriosclerosis.

Diagnosis: Manic attack developing suddenly in a woman of 42 and terminating fatally in less than a month as a result of acute purulent peritonitis.

Case No. 92. C. D. Female.

Occupation: Housework.

Family History: Negative.

Mental Makeup: Seemed to have normal interests, although she made comparatively few friends. Was not interested in the theatre. Was easily worried, but never cried or got blue, according to her husband. Is said to have been somewhat sensitive. Normal religious interests.

Age on Admission: 42.

Previous Attacks: None.

Age at Onset: 42.

Psychosis: Six months before admission patient began to think the people in the apartment above were talking about her. Said they accused her of going out with other men. Three months before admission, became excited and called her landlord names. Suffered from insomnia for some time. Thought the doctor who was treating her was giving her poison. Became jealous of her husband and thought he was going with other women. Thought her husband was dynamiting the apartment and called in the Fire Department for this reason. Denied hearing voices at that time. Said she had seen no visions and felt no electricity. Showed no anxiety, apprehensions or fears. At the Psychopathic Hospital was over-active, excited, restless and irritable. Showed evidences of hallucinations and said she had visions. Was angry and shouted loudly, complaining about the treatment she received from the attendants. At times was laughing, joking and singing. Fairly distractible. Thought people put poison in her food and had an idea that she was pregnant. Said she could hear God's voice talking to her at times. Is said to have shown a flight of ideas. Appeared to have no memory disturbance. Seemed to be somewhat clouded at times. Menopause completed during the 42nd year, a short time prior to admission, At the Boston State Hospital, talked almost constantly and was quite noisy and destructive. Showed persecutory ideas very clearly. At times seemed almost euphoric. Was very mischievous. Four months after admission, had cleared up and was discharged. Diagnosis: Manic-depressive Insanity, Manic Type; Improved. Visited the hospital later, showing no evidence of any psychosis, and was discharged after a year, Recovered.

Physical Condition: Good.

Alcohol: Use of alcohol denied.

Arteriosclerosis: No evidences of arteriosclerosis.

Diagnosis: Manic-depressive Insanity, Manic type, developing in a woman of 42, a few months after completion of menopause, and terminating in recovery after four months.

Case No. 93. S. T. Female.

Occupation: Housework.

Family History: Negative as far as known.

Mental Makeup: Patient was always sociable. Made friends easily and was well liked. Was fond of going out with others. Sometimes quarrelled with the neighbors but was not considered to be a quarrelsome individual as a rule.

Age on Admission: 43.
Previous Attacks: None.
Age at Onset: 43.
Psychosis: Became excited three or four days prior to admission. Had a vision three months before that which led her to think that she possessed healing powers. Preached religion among her neighbors and is said to have cured them of numerous ailments. Exhibited automatic writing shortly before admission. Said she was unconscious during these writing periods. Apparently had been hallucinated. Brought to the Psychopathic Hospital by three policemen and was very violent. Showed typical manic picture with elated moods, distractibility and playfulness, suddenly changing to irritability, and becoming violent. Especially noisy at night. Very resistive and refused physical examination. Thought she was going to give birth to a second Christ. Was correctly oriented. Showed no evidence of deterioration. On admission to the Boston State Hospital, was oriented for time, place and person. Difficult to hold her attention on account of her excitement. Talked in a very loud voice but was able to answer questions regarding her residence, etc. Very distractible and violent. Had to be restrained at times. Became quieter later, but was irritable and complaining. Snatched food from other patients. Frightened them. Committed occasional assaults. Seemed to be perfectly clear in regard to her surroundings. Was removed by her husband against the advice of the medical staff, after about three months. Was discharged at the end of a year. Was taken out of the State and nothing has been heard from her.
Physical Condition: Good.
Alcohol: None.
Arteriosclerosis: None.
Diagnosis: Manic attack of rapid onset in a woman of 43, the duration of which is not known on account of the patient having been removed from the hospital against advice and taken by the husband out of the State.

These cases showed the characteristic symptoms of manic-depressive excitement. References to flights of ideas or distractibility or both were noted in practically all of these cases. In one or two there was some suggestion of clouding and confusion, which may or may not have been indicative of a delirium associated with the somatic condition eventually leading to death. It appears more probable, however, that the intercurrent disease terminating the psychosis was a coincidence rather than an etiological factor.

VII

Summary

This analysis of cases showing a definite onset of psychosis between the ages of forty and sixty, and which may be looked upon as being due, with a reasonable degree of certainty, to the processes consequent upon the involution period, may be summarized as follows: —

Paranoid Conditions: Male, 4, or .45 per cent; female, 23, or 2.58 per cent; total, 27, or 3.03 per cent.

Schizophrenic Conditions: Male, 5, or .56 per cent; female, 24, or 2.69 per cent; total, 29, or 3.25 per cent.

Involution Melancholia: Male, 14, or 1.57 per cent; female, 17, or 1.90 per cent; total, 31, or 3.47 per cent.

Single Attacks of Excitement: Male, none; female, 6, or .68 per cent.

In all, there were 23 male cases, or 2.58 per cent, and 70 female cases, or 7.85 per cent, making a total of 93 cases, or 10.43 per cent, of the total number of cases with an onset during this period of life. This is a very conservative estimate, many cases having been intentionally excluded on account of arteriosclerotic and other complications. Fifteen per cent would be much more nearly correct.

As a result of these observations the following conclusions would seem to be warranted:

1. There is a considerable number of paranoid conditions, more common in women, characterized by hallucinations of hearing and delusions of persecution and developing between the ages of forty and sixty, not attributable to alcoholism, arteriosclerosis or senility, and obviously not related to dementia praecox.
2. There is an equally large number of schizophrenic conditions, more common in women, and appearing for the first time during the involution period of life in individuals who have never before shown anything suggesting dementia praecox.
3. Involution melancholia as a clinical entity would appear to be thoroughly justified and clearly separable from the manic-depressive group by the exhibition of a symptom-complex which presents itself only during the involution period.
4. Single attacks of excitement appearing for the first time during the involution period are rare and may be of somatic origin.
5. While these manifestations are in many instances probably exaggerations of latent tendencies peculiar to the makeup of the individual, a constitutional basis for these conditions is not yet clearly established.
6. We would appear to be justified in the formulation of the hypothesis that there is a well-defined clinical group of *Involution Psychoses* including all of the types already enumerated and almost certainly others, to be determined by further investigations.
7. This group may be defined as including the following: —

    1. Manic Types
    2. Involution Melancholia.
    3. Other forms of Depression.
    4. Paranoid Types.
    5. Schizophrenic Types.
    6. Presenile Types (Alzheimer's Disease).
    7. Other types (to be specified).

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GEORGE M. KLINE, M. D.
DOUGLAS A. THOM, M. D.
GEORGE L. WALLACE, M. D.

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THE IMPORTANCE OF EARLY YEARS

By Douglas A. Thom, M. D.

Director Division for Mental Hygiene

Read before Federation for Child Study, New York City.

By force of circumstances, children, taken as a group, are destined to spend their early years in closest association with adult personalities who are lamentably ignorant regarding the most elementary principles which govern behavoir. Not only are the children dependent upon adults for physical care, intellectual stimulation, and moral precepts, but also for an environment in which to live that is not contaminated by the unsatisfied emotional strivings of the parents. The fact that the mental life of the child and its relation to its future health, happiness and efficiency, has been little appreciated in years past, is evidenced by the lack of recognition that this important phase of hygiene has received, even at the hands of the various professional groups, such as the physician, the educator, the lawyer and others directly interested in problems of the gravest social significance.

The conduct of the child which deviates from the normal, that is unusual or unexpected, is as much a mystery to the average parent as certain types of adult conduct are to the child. The parents often have as little comprehension of the underlying forces that account for temper tantrums, fears and personality twists in the child, as the child who has been punished for some act, the wrongness of which could not possibly lie within his comprehension. To be sure, when such punishment has been inflicted, the child is aware that something is wrong. His whole horizon is changed from one of joy to sorrow. He is ostracized and humiliated by an effective blow, which has not only hurt his physical being, but damaged his self-regarding sentiment. He struggles blindly with unseen forces over which he has no control to regain his lost world. The whyness and the justice of the act are perhaps years beyond his intellectual grasp, and the emotional reaction has all the sorrow, bitterness and resentment, while it lasts, that any adult could experience. How little of all this emotional turmoil is understood by the average parent: One would not be far wrong in stating that most of the serious situations occurring during pre-school years, and the very ones that are most apt to leave scars which incapacitate in later life, are created by the personalities with which the child has to deal. All too frequently we find parents resorting to methods in obtaining desirable conduct that are simply reflections of their own emotional instability.

The over-solicitous mother produces the dependent, clinging-vine type of child. The stern, rigid, righteous father, with all his strivings for authority and self-assertion is not infrequently the creator of the child who feels inferior and inadequate. The parent who is quick-tempered and hands out discipline in the most erratic manner, and those who bribe and cheat the child, are accountable for a group of personality deviations in their offspring to the same degree as though they had crippled them by physical force.

The foregoing types of parents are found in every walk of life, bearing no relation to their cultural or intellectual levels. As I have stated elsewhere, interest and love alone on the part of a parent are not enough to insure success in handling the innumerable problems which are presented during the child's early years. In fact, the very love that the parent bears for the child may be the stumbling block that prevents successfully fulfilling the obligations of parenthood. An intelligent approach to many of the problems of childhood is prevented by excessive worry, anxiety and needless fear on the part of the parents.

If the foregoing be true, as most of those will agree whose training, experience and education have been directed to problems concerning the psychopathology of childhood, there can be no more important function for that branch of medicine known as mental hygiene than to educate in so far as possible, the parent, the teacher, the nurse; in fact all those individuals who, in a general way, have the responsibility of the mental life of the child in their charge.

I do not entertain the idea that the task at hand is an easy one. Owing to the fact that there is such wide diversity in the constitutional makeup of each and every individual, and that these individuals are called upon to adjust themselves to environments that are so varied, and so constantly changing, it is with great difficulty, and always with more or less danger, that broad generalizations are set forth. There are, however, certain fundamental principles of mental hygiene which are well within the grasp and can be intelligently applied by the layman.

The first and most important step in this problem of education is to impress upon the minds of the parent and teacher that the child has a mental life, a fact all too frequently ignored. Let us not forget that just as a child has ears, eyes and lungs, kidneys, a brain and a heart, he also has instincts and emotions. This immature individual has an inherent hunger for self-expression, which is constantly impinging upon a code of laws and customs, of which he has no understanding. Keep in mind that the child has plans, hopes and ambitions, has doubts, fears and misgivings, has joys and sorrows, some very slight and fanciful, others very deep and real. His emotional life is gratified and thwarted pretty much the same during the pre-school years as in later life.

The conduct of the child is simply his reaction to his environment; it is the result of a struggle between his instinctive strivings and the limitations and inhibitions set up by his environment. The type of conduct that is approved by society is usually the type that does not annoy or inconvenience any of its members. The conduct which meets with disapproval is that which brings the individual in conflict with the parent or society. With the pre-school child, his hyper-activity, restlessness, lack of concentration, negativism, curiosity, etc., are most apt to cause parents concern, while the child who is quiet and reserved, obedient and well mannered, who steals away from the group and plays by himself, or clings tenaciously to his mother, who is inclined to be introspective and self-centered, passes by unnoticed. His intollerant attitude toward the frivolities of other children of his age may be considered worthy of commendation. He is looked upon as being self-reliant and is commended for his ability to amuse himself. It may be, however, that the very personality traits which keep the quiet youngster from getting into conflict with his environment are those which are most serious and demanding of attention, so far as his mental health is concerned.

In order to understand the conduct of any human being, whether it be child or adult, whether found in the nursery or prison, the conduct must be interpreted in terms of the individual's total experience, training and education, and it is equally important that one appreciate the fact that during the earlier years of life, the child's reactions to his environment approach more closely to the instinctive level than at any other time. The primary objective is the preservation of his own physical body, and the development of his own personality, and these activities are manifested by strivings in certain definite directions. Dr. McCurdy expresses these strivings as follows:

1. Bodily pleasure, such as desire for food, drink and creature comforts, and bodily sensations of a pleasant nature.
2. Intellectual curiosity; desire for new experience.
3. A lust for power and for exhibiting it.
4. A lust for recognition.
5. Desire for security.

If those who are dealing with children, whether they be parents, teachers, judges or probation officers, would only keep in mind the fact that the normal child's desire for power and recognition is quite as fundamental as his desire for food, the so-called asocial conduct in children would not seem so bizarre and unintelligible.

If it be that the child is handicapped by a lack of training, experience and education, which necessarily leads to conduct of an instinctive type, there are compensations, inasmuch as certain mental characteristics, which go to make up the personality of the child are more marked and usable during the pre-school years than at any other period. I refer to the plasticity of the child's mind, his tendency to imitate and to accept suggestion, his love of approbation, all of which should be brought into play in any attempt to alter conduct. Many parents have been brought face to face with the fact that the undesirable conduct on the part of a child is simply an imitation of their own reactions to life and that illness and incapacity have been suggested by an over-solicitous mother. They have been pleasantly surprised at the results when praise has been substituted for blame. Temper tantrums and pugnacity spring not infrequently from the emotion of jealousy, which casual observation shows has been developed by the parents, sometimes for their own amusement. It therefore behooves parents to pause occasionally and take account of stock of the mental characteristics which go to make up the personality of the child, and to consider them in terms of assets and liabilities. It is futile to go on in a haphazard sort of fashion, using the trial and error method, which frequently results in alleviating one defect and replacing it by another more serious.

Up to this point we have considered very briefly how personalities become twisted and warped because of individual relationships in the home, brought about, to a very large extent, by lack of understanding between parents and child. The causative factors in most of these situations are quite obvious and the treatment, to a very large extent, is that of the parent. The home itself is perhaps comparatively free from domestic strife and there are no outside forces which are contributing to the difficulty of the problem to be solved. There is no necessity to build up a home for the child that is absolutely free from conflict. It is not desirable to place the child in an environment that is quite artificial and without the difficult situations for the child to combat. Fear and failure are both factors which the individual must confront all through life, and it is well that the child learn during early years how to meet failure as well as success. There is no need, however, of stressing this point, because the average home and environment will, without any special preparation, in the nature of things, present situations sufficiently numerous and trying to test out the normal child of pre-school years.

There is the home, however, where friction is the rule rather than the exception, where nagging, complaining and quarrelling result in turmoil, and there is the home where there is no objective evidence of disharmony to the casual observer, but where cooperation, sympathy, understanding and team play produce a mental atmosphere that is most unhealthy. We often think of such a home as being produced by the incompatability of the persons who dominate the household. In a recent study (1) of problem children coming from such homes, observations have been made which are of sufficient interest to attract attention.

These children, fifty in number, were all of pre-school age, without intellectual defects, and about equally divided between the two sexes. All these children were exposed from two to six years to an environment where friction and disharmony were constant. It is difficult, indeed, to account for friction in homes by any one particular factor. Nevertheless, there were certain outstanding contributory causes which were sufficiently well defined to justify consideration, and, not infrequently, two or more of these forces were in operation at the same time.

The economic problems were outstanding; inability or lack of desire on the part of the father to provide adequately for the family stood out in the foreground. Intellectual gulfs, brought about by grades of education were frequent and fundamental. Differences in race or nationality; vice and bad habits on the part of one or both parents; neurotic traits and emotional instability; as well as definite mental and physical disease, interfering relatives, and at times marked difference in the ages of the parents, leading to wide variation in interests, all played an important part as underlying factors contributing to friction in the home.*

It is not difficult to understand how the atmosphere of such a home would influence the developing personality of the child. Invariably there is no agreement as to the disciplinary measures to be utilized. These problems are all argued before the children who learn, at a very early date, that the house is divided against itself. Under such conditions there is civil war operating at all times, the children taking sides with the parent who is most apt to gratify their immediate wishes. When we stop to think that imitation and suggestion are operating with their greatest potency at this particular period of life, it is not surprising that the mental atmosphere created in such a home fails to develop the desired stability that is so essential to meet the problems in the world outside. Even that mental characteristic which is so important, love of approbation, is neutralized, as invariably what one parent approves of the other parent is sure to disapprove, and the child is left in a state of doubt and indecision as to the best way of adjusting his needs and interests to his present environment.

It is not at all surprising that the normal child meets this abnormal situation in what society calls an asocial way. These asocial ways may be certain physical manifestations, such as disturbance in sleep, feeding difficulties, abnormal sex reactions, or, what is more likely, by the development of certain undesirable personality traits, such as outbursts of temper, stubborness, selfishness, pugnacity, jealousy, cruelty, a domineering attitude toward those whom he looks upon as being weaker, and with fear and cowardice toward those whom he thinks superior. It is not surprising to find that a very large per cent of all our problems of asocial conduct, such as destructiveness, lying, stealing, truancy and assaults, come from the friction home. It does mean, however, that the friction home is the workshop which specializes in turning out children who, during the first six years of life, fail to develop habits and inhibitions which are so essential to efficiency and happiness in later life.

*Domestic Conflict and its Effect on Children (Dorothy E. Hall, Habit Clinics, Boston)

Let me give you an example of the product of the friction home, and, if I may, go into considerable detail as to the background which is rather typical of many of the cases with which you, as individuals interested in child study, are familiar.

Dick, aged five, was referred to the Clinic by the Nursery School for vomiting and destructive behavior. He was a small, pasty looking boy, with shaggy dark hair, large brown eyes, rather thin face, with a receding chin. Physical examination showed him to be without physical defect except for a receding jaw. His general health was good. There is a history, however, of five convulsions, which occurred between the ages of one and three years.

Perhaps the best way to describe his personality will be through mentioning some of his conduct at the nursery school and at home. His teacher reports him as selfish and tyrannical, refusing to share anything of his and screaming in a temper when another child has something he wants. He teases the smaller children and plays roughly with them, throwing the toys about in an aimless, excited way. Before visitors he is even more active, showing off in a silly fashion, shouting, running and making strange animal-like noises. Dick seems to fully appreciate his power in his home and takes every opportunity to use it. He whines and fusses for what he wishes, and if this method fails, he stages a tantrum in which he shrieks, hits and kicks. He is jealous of his parents, and objects to his mother's even patting the dog. At night he refuses to go to bed until his mother goes, and insists upon sleeping with her. If any attempt is made at discipline, he screams in an angry, tearless fashion, or simulates the beginning of a convulsion, and father immediately dances attendance. Meal-time is just one more struggle when he refuses anything he does not like and vomits if urged, then later demands milk and crackers. Often after any unusually stimulating day, he has night terrors, sometimes for three or four nights in succession.

As a background for this picture we have a home situation in which mother claims to have been unhappy with her husband since marriage. She calls him a "typically spoiled mother's boy," says he was never taught any self-contol or to give in to anyone. He is selfish, wilful and unreasonable; he throws all responsibilty on patient's mother, and although he refuses to let her carry out any of her plans without interference, he blames her if anything goes wrong. After the first year of marriage, father had a "nervous breakdown" and for four years stayed home and let mother support him by doing stenographic work. Finally her doctor told her she was foolish to do it and she "made it so hot" for her husband that he has worked ever since. Nevertheless, the situation has grown steadily worse. Her husband was disgusted when he learned she was pregnant, and nagged and abused her the entire time she was carrying patient. Since Dick's birth his father has seemed devoted to him, but in a selfish way. Mother thinks his fear that Dick will have a convulsion governs his treatment of the boy, and is due more to the loss and inconvenience it would cause him if patient died than to any real interest in the child as a person. Father will not allow patient to be disciplined, preferring to give him his way and have immediate peace and no crying; and mother, not daring to interfere, makes an ineffectual attempt to secure obedience by nagging. When Dick was about two, father became physically abusive to mother, and she left him one night, going to the home of a friend of hers. Father had a most difficult time with Dick and the next day begged her to return. Since then he has not abused her physically, but she feels that the biting remarks and continued criticism which she now suffers are almost worse. There have been various episodes which have made her feel that she could not endure the situation longer, and she has consulted a lawyer about a divorce, always putting off the final procedure, thinking she must keep a home for Dick. However, lately she is beginning to feel that the bitterness of the home atmosphere to which he is subjected may be worse for him than the effect of breaking up the home. She has tried to discuss with patient's father the consequences to Dick of hearing bickering and quarrelling whenever he is at home and of hearing each parent accuse and belittle the other, and argue over his symptoms, not only suggesting continued undesirable behavior, but the use of what appears to be the start of a convulsion to gain parental obedience. Father merely swears in answer and allows the child to continue to do just what his mother has told him not to do. The situation is also complicated by the presence in the home of an old lady who brought up patient's father and who now takes his part against mother, of whom she disapproves because she has continued to do office work and keeps a rather careless, untidy home.

At present Dick is spending five days a week in the nursery school and his mother has succeeded in establishing an early bed time for him so he is concerned as little as possible with the home conflict. He has shown marked improvement in his ability to get along with the other children at school, and now eats heartily of whatever food is given him. His teacher feels that he is making a distinct effort to gain approval by conforming to the requirements made of the group. However, his mother sees only slight improvement; he seems to dance about deliberately doing what he is asked not to do, knowing that he loses the approval of one parent with a certainty of gaining at least the consent of the other, and obviously following in his reactions to them the sort of responses they make to each other.

In this case the physical heritage as well as the social, is probably an important factor. In view of the fact that the boy has had convulsions and has shown extreme emotional instability, his inheritance cannot be ignored, although judging from his rather quick response to the regulated life at the school, one feels that he might have done well enough in a home where the social heritage would have been more adequate. However, suggestion and imitation being such important factors in the life of any child, it is not surprising that this child, who is inherently unstable from the emotional standpoint, assumed very naturally the erratic behavior of his parents which he saw in operation daily and especially since these methods worked out to his immediate advantage at least. His behavior pattern at home has been built up conditioned by antagonism, discontent and selfishness and it seems doubtful whether more than a limited change can be brought about in his conduct there unless the fundamental feeling of the parents toward each other can be altered. Fortunately the mental life of a child is so plastic that if he can be made to appreciate his relationship with other individuals and be made to feel that approval is going to contribute to his material welfare, he may find it expedient to replace his blind selfish striving for satisfaction by conforming. But one wonders if, after spending his most impressionable years in emotional confusion, his later conformity and control will be more than a rather flimsy superstructure.

The following case comes from quite a different home, both parents being educated, with no economic difficulties, both cooperating and in entire agreement as to the training and care of the child,and where the results of their training and care and supervision, up to a certain point, have been considered not only satisfactory, but quite ideal.

A little girl aged five years was taken to a clinic by her overwrought parents, because suddenly, and quite unexpectedly, she had refused to take food or swallow. The morning that I was called to the office in consultation, the father was anxiously but silently pacing the floor; the mother was weeping and wringing her hands; the little girl was sitting quietly next to the doctor, wearing a mask-like expression, the saliva was dribbling from her mouth to her frock, which was soaked; she seemed only casually interested. The doctor stated that three days ago for some unknown reason the child had refused to take any food, and that she was constantly demanding that her mother reassure her that it was all right to swallow, and in spite of the many reassurances given, she had refused to swallow and dribbled all day long. A brief interview revealed the following: It appeared that the mother had frequently told the child that she should never allow anyone to kiss her, and in order to make her statement more impressive, she informed the child that it caused infection by germs and that when the germs were swallowed, little girls died. It happened that on the afternoon previous to the day her unusual conduct began, she had gone to her first dancing class, and some man, she states, stooped down, patted her on the head, and kissed her on the mouth. How much of an impression this incident made upon the mind of the child is difficult to valuate at this time, but the important aspect of the problem seems quite obvious. The parents of the child were quite intelligent in handling most of their problems, entertained some rather unusual ideas about bringing up a child on an intellectual basis; their principle was that the child should not be spoiled by attention, praise or affection; if things went well it was taken for granted, if otherwise, moralization and punishment followed. The child was never boisterous, her table manners were perfect, her speech grammatically correct, she was never disobedient, she played only under supervision with most carefully selected playmates; her neatness, punctuality and general conformity to parental laws were accepted as a matter of course. The emotional upset which developed after the child had been kissed would ordinarily have been eradicated after a little explanation, had it not been for the fact that, quite as unexpectedly as the symptoms had developed, the parents began to take notice of the child, they not only gave her a little attention, but they got extremely worried and anxious. The child for the first time in her life became the center of attention. It was a new experience and one which was so pleasing to her starved emotional life, that it is not at all surprising that she clung to it with great tenacity and gave it up with considerable reluctance. This is just another conclusion of the home situation which occasionally produces rather alarming symptoms in the child.

The over-solicitous parent stuffs and overfeeds the emotional life of the child, whereas the stern, forbidding type of parent starves the emotional life of the child. These are two extremes of divided strength and ability in the emotions which will neither suffer from hunger pangs nor be nauseated by over-stimulation.

In closing, it might be well to consider, for a moment, what mental hygiene has to contribute to the understanding of the problems of childhood. What are its possibilities and what are its limitations and how best may they be attained and overcome?

In the case first cited, the whole situation is so fundamentally wrong, and the interest and cooperation which we may expect to obtain from the parents so meager, we are absolutely dependent, for the moment at least, upon changing the environment, in so far as possible, and trusting that in spite of, rather than because of the parents, the child will pull through the next few years, tempestuous as we know they will be, not too badly distorted by his experiences, but what he may fulfill some useful function in life. Heredity and environment both have been stacked against him, and, optimistic as we should like to be, we know that future prognosis is grave. That does not mean, however, that inefficiency is the finished product. It may be, in future years, that the clinic and nursery school and other opportunities that are given him for making normal, healthy contacts outside of the home, will have played their part. In the second case, dealing with intelligent parents who simply started out with a false premise, and grossly ignorant of the fact that their child had a mental life, much could be accomplished, and there is every reason to believe that the acute episode which brought the little girl to the psychiatrist was a blessing. It gave the parents an opportunity to reconstruct their plan of training. It gave them an opportunity for participating in and enjoying the activities of their child who, in turn, will have, for the first time, a chance to express her emotional life, and not develop into a purely mechanistic type of individual, repressed and inhibited by an environment over which she had no control in early years. So it may be seen that there are wonderful possibilities and definite limitations to what mental hygiene can accomplish, depending to a very large extent, not so much upon the patient, who is simply the product of an unhealthy environment, but upon cooperation, interest, and to a lesser degree, the intelligence of the personalities with whom the child comes in contact.

DELINQUENCY

BY KARL M. BOWMAN, M. D.
Instructor in Psychiatry, Harvard Medical School
Head of the Department of Psychiatric Social Work, Simmons School of Social Work
Chief Medical Officer, Boston Psychopathic Hospital

It is, perhaps, best to define first what we mean by "delinquency." We find that, in one society or in one stage of civilization, certain acts may be considered proper, or even desirable, which at another time, or in a different type of civilization, would be considered quite reprehensible.

Take for example, the question of marriage. In certain civilizations, it is not only allowable for a man to have more than one wife, but it is considered desirable, and a very praiseworthy and proper thing to do. In our present American civilization, a man is allowed but one wife at a time. But, he may have a number of wives in succession.

One could go on and show countless illustrations of how certain acts are regarded as good or bad, depending on the society to which one belongs. This raises the question as to whether there is any fundamental conception in regard to delinquency. The answer is that, in all cases of delinquency, there is a common factor and this factor is an unwillingness or inability, on the part of the individual, to conform to the rules of conduct laid down by the society to which he belongs.

At different times, various theories have been advanced to explain the cause of delinquency. The most common one has been the possession by evil spirits. And, there has been a common tendency to think of an evil spirit, Satan, who attempts to cause individuals to do wrong. Science has not been content with this formulation, and has sought for some more matter-of-fact explanation for the basis of anti-social acts. However, science has not been without her mistakes.

In 1905, Binet published a series of tests for determining the intelligence of an individual. This marked a great advance, and the tests were quite naturally and properly utilized in many ways. When a large number of persons, in jails, were examined by this, or similar, tests, a great many of them were found to be feeble-minded. And, when the population of our various reformatories, poor farms, etc. were examined, they likewise showed a large percentage of feeble-minded.

In the first burst of enthusiasm, it was felt that here we had an explanation of all crime, poverty and unhappiness. It was openly stated that, feeble-mindedness was the cause of all such crime and poverty. Then we became quite stirred up over the large number of feeble-minded persons, who must be at large in the community. The menace of the feeble-minded was dwelt upon at great length.

At that time, Goddard had published his studies to show the hereditary basis of feeble-mindedness. A sort of panic seemed to sweep over the ranks of social workers, reformers and others concerned with this problem. It was openly suggested that all feeble-minded persons be segregated, or at least sterilized. Further study along this line, however, has demonstrated many falsities in the theories just stated.

In the first place, we no longer feel that all feeble-mindedness is a hereditary condition. The present conception is that, at least 50% of feeble-mindedness is an acquired condition, and not due to heredity. And, we know that, in acquired feeble-mindedness, there is no tendency to transmit the condition to future generations. Further studies have also shown that the tolerable majority of feeble-minded persons are honest, hard-working and respectable members of the community.

And, that they are just as well, if not better, equipped to do some of the work of society than are their more intellectual neighbors.

It has also been realized that, quite naturally, the feeble-minded criminal is more liable to be caught and punished than the intelligent one. Therefore, it is only natural that we should find a much larger percentage of feeble-minded in our jails. Many of them are there because they lacked sufficient intelligence to escape detection, whereas there are plenty of intelligent criminals, who have never been apprehended. A recent survey of the jails in one state showed that there were proportionately more college graduates in jail than there were college graduates in the general population. On the same basis one might argue that a college education is liable to make one a criminal.

Perhaps the most important contribution to the study of delinquency, during the past few years, has been the clearing up of the false idea that, feeble-mindedness is the basis of all crime and poverty. We now know that there is no necessary relationship between feeble-mindedness and delinquency. If we reject this theory, how then are we to explain anti-social behavior? Why is it that certain persons seem unable or unwilling to conform to the rules of conduct laid down by the society to which they belong? In my opinion, three main causes can be given for delinquency.

First, a person may start life with a different endowment from his neighbors. He may lack certain qualities or capacities, or have too many of the other qualities or capacities. This forms the great group of individuals whom we call Constitutional Psychopathic Inferiors, or Psychopathic Personalities. They differ from the feeble-minded in that their defects are not intellectual, but are in the field of the instincts and emotions. Some of them, of course, are feeble-minded. But, many of them are individuals of even more than average intelligence.

Secondly, physical diseases, in a person of normal makeup, particularly diseases of the brain and nervous systems, may alter the personality and makeup of the individual to such an extent that he becomes a delinquent.

The third main cause is that a person may start life with a reasonably normal endowment, both intellectually and emotionally, and yet as a result of environmental forces of a very complicated nature, may develop mental conflicts, repressions and emotional abnormalities, which prevent his making a normal adjustment to society, and which may be at the basis of certain delinquencies.

As an example of the so-called Psychopathic Personality, the following case might be cited:

A boy of 18 was sent to the Boston Psychopathic Hospital by the Court because he was under arrest for having stolen a revolver and having it in his possession and because the previous history made the Court feel that he was a proper case for study. The family history showed that the maternal grandfather had been considered "weakminded" and had never supported his family. The mother and the two maternal aunts have all been divorced and all seem of a rather neurotic makeup. The father has been arrested under the Mann Act and has been unfaithful to his wife ever since marriage. A paternal uncle is considered "peculiar and weakminded" and his child is in an institution for mental defectives.

The patient had convulsions when six months old, and they continued until he was about twelve years of age. He was backward in learning to walk and talk. When three years old, he developed tuberculosis of the left knee. The knee was put in a cast and has been stiff as a result. He was petted and babied by his mother and allowed to do whatever he desired. His mother was very solicitous about him. He played very little with other children but took music lessons.

He started to school at seven and got along quite well, finishing the second year of high school when sixteen. It is known that he has masturbated since seven or eight years of age. Since a small boy, he has always been inclined to exaggerate and has told many impossible stories. When in high school, he commenced to play truant and finally stopped going altogether. Attempts were made to get him interested in work of some kind but he would never stay at any one job for any length of time.

He has been involved in all sorts of delinquencies. There have been many heterosexual and homosexual experiences, in which he has contracted venereal disease, and on one occasion persuaded a married woman to go to New York with him, and when he ran out of money he left her there. He has exposed his genitals on various occasions. He has been convicted of larceny on several occasions and at one time served eight months of a three year sentence at Blackwell's Island, New York, at the end of which time he was paroled.

When the patient was admitted to the hospital he was pleasant, cheerful and well mannered. He was very clever in evading questions, and had an apparently frank and open manner, which he had doubtless cultivated as a method of getting himself out of difficulties. The psychometric test gave him an intelligence quotient of 100. He was exceedingly smooth and plausible in all of his statements and made a very excellent impression on the casual observer, being neat and clean about his person and being rather good looking. At times he told rather fanciful stories about his past and he was somewhat boastful. He seemed to have absolutely no concern about being arrested and there was not the slightest evidence of any feeling of shame or remorse for his misconduct.

While environmental factors have doubtless contributed to this boy's psychopathic makeup, it would appear that from a very early age, he was rather different from his neighbors, that he has never been truthful nor honest, that he has never had any consideration for the rights of others, that he is extremely selfish and lacks any sense of ethical or moral standards. It is not felt that a case such as this offers much hope from any type of treatment, and the rights of society should be considered as of much greater importance than the rights of the individual. In other words, society should be protected from him. To talk of a lesser degree of responsibility and allow him to escape punishment for his crimes is merely to encourage others of the same type in crime. A penal institution is about the only place that can look after such an individual and it is the only type of appeal that makes any impression upon him.

Several cases might be briefly cited as examples of the second type, wherein a person of normal makeup suffers an alteration of personality due to physical disease. Among such cases, encephalitis lethargica, the so-called "sleeping sickness,"is a fairly common cause of character change in children. I might quote you as examples, the following cases:

A boy of 17 was sent to the Boston Psychopathic Hospital by his minister because he was considered to be so delinquent that he could not get along outside and it was felt that he should be sent to a reform school. The history showed that he had been a very normal sort of boy up until about a year before his admission, that he had shown a personality change at that time and had become quite irresponsible, unwilling to work and careless and untidy about his person, and not in the least responsive to any type of appeal or discipline. He had been severely beaten by his father with no effect. The minister had labored with him for weeks with like results. Finally, the family forced him out of the house and made him sleep in the chicken house and his meals were given him out of the back door.

A careful study of this case showed that just preceding the personality change, the boy had had an attack of encephalitis, and that the personality change was on this basis.

Another case was that of a boy of 19 who was arrested for stealing a hat in a department store in Boston. Here again, a study of the case showed that the boy had been of normal makeup and disposition until he had had an attack of encephalitis, and that following this he had had a personality change and had been getting into all sorts of difficulties. He was committed to the Boston State Hospital.

As an example of the third type of case, the following might be rather briefly discussed.

A college girl of 22 was sent into the hospital because for the past year and a half she had complained of being somewhat nervous and had taken a great many things belonging to other persons. The study of the case over a period of two years is too long to recite in detail, but the following summary of facts may suffice to bring out the point I wish to make.

The patient was a girl of high intelligence who had always been physically somewhat inferior and who had been unable to indulge in outdoor sports and games with other children because of this. The family atmosphere was exceedingly repressed. The patient was markedly attached to her father and had made him her ideal in life. She had never learned to face the problems and difficulties in life frankly and had always repressed any unpleasant experience. A short time before her delinquencies began, she happened to discover a letter addressed to her father lying on a desk. She picked it up and read it and found that it was a love letter from another woman. She became very much distressed and upset about this and commenced to develop a number of nervous symptoms such as headaches, attacks of dizziness and palpitation and mild periods of depression. She felt she could no longer stay at home where her father was, so she tried various plans of living elsewhere. Her finances were quite limited and she resorted to borrowing clothes and other articles which she would often neglect to return. She showed marked cleverness in evading detection in some of these affairs.

When first admitted to the hospital, the patient denied absolutely having taken anything that did not belong to her and was somewhat defiant and tearful. She felt that the hospital physicians were merely probing into her private affairs in order to "try and get something on her" and to gloat over her misdeeds as a rather choice bit of scandal and gossip. It was only after several months that her confidence was secured so that she told all of her difficulties about the home life. A number of interesting things were brought out such as the fact that she felt that that she would like to clean the house all the time. She would clean the same room three or four times and then feel that she wished to do it again. She had a great deal of rumination. As interviews continued, the patient gradually became more and more frank and showed less tendency to gloss over some of her past misconduct. She admitted frankly some of the things she was charged with but continued to deny others. After about six months of careful study, it was felt that the condition was dependent upon the marked father fixation with the extreme emotional reaction to the discovery of her father's misconduct.

Since the patient, herself, seemed to be unable to evolve any basis for her misbehavior, it was then pointed out to her that stealing often occurred in persons who were having a great deal of difficulty with their emotional and instinctive life, and she was given Dr. Healy's book to read on the subject. After she had read it, she remarked that at first the physician's explanation seemed to her very obscure and fantastic, but that after reading Dr. Healy's book, and seeing the number of cases cited there, she was prepared to accept the physician's idea that this was the basis of her own stealing.

After this had been gone over with her in a great deal of detail, a number of times, she showed a good deal of improvement both physically and mentally and was able to return to school. As far as can be determined, there has been no recurrence of stealing and in the past year there have been no nervous symptoms. The patient, herself, has remarked that she feels different, that she no longer has the feeling of anxiety and depression and that she feels more as she used to before the difficulty with her father arose.

The cases cited illustrate the different causes of delinquency and the necessity for different treatment of each type of case. In the treatment of these conditions, it is of course important to treat each case on its own individual merits. No two cases can be treated exactly alike. In general, however, there are two principles of treatment: (1) Can you make it worth while to the patient to get well? (2) Can you make it so unpleasant for him to remain sick that he prefers not to do so?

In dealing with Psychopathic Personalities, one has to resort much more frequently to the second principle than to the first. Those cases which are due to physical disorders often show little response to either of these methods and have to be cared for in institutions for the rest of their lives. Those cases which are due to mental conflicts and repressions can usually best be treated by the first method, and when a physician once secures the confidence of his patient, which is often a difficult thing to do, he can usually demonstrate to the patient that it is worth his while to make the effort to get well.

WHY AN INTEREST IN MENTAL HYGIENE

BY C. A. BONNER, M. D.
Chief Executive Officer, Boston Psychopathic Hospital

To be interested in Mental Hygiene one must have some understanding of mental diseases, at least the knowledge that many forms occur gradually and that often when definite symptoms are present it means that urgent measures must be undertaken to provide relief. Relatively few forms of mental disease are of such a nature that proper care can be given in the home. Particularly does this refer to the active and the young. The hospital offers nursing and medical care that is unequalled in the usual home. Too often mental troubles are kept within the confines of the home until it is too late, and not until a member of the family is stricken is there a desire to understand the affliction which we term mental disease. Clinics, lectures and Out Patient Departments are provided in every community and they should be used more extensively. In Massachusetts under the Department of Mental Diseases one branch of the service is devoted to work on Mental Hygiene alone. We should not wait until there is a definite outbreak of disease, but should seek to understand changes in personality or other peculiarities which tend to persist. No one would hesitate to call a physician in a suspected case of pneumonia and the same principle of reasoning should be used in dealing with a beginning mental disorder. While not every case is curable, yet the knowledge in treatment is becoming more and more usable and successful.

Just what happens after a case has become definitely psychotic? Usually one of three facts can be predicted. The case may recover in a short period under hospital care. Secondly, the case may require prolonged and intensive hospital treatment before a favorable result is accomplished. Thirdly, certain types of mental disorder, despite the most careful and intensive treatment tend to chronicity. Figures showing the number of patients now in mental hospitals are astounding and what it costs to care for them, but this is not the part of the problem I wish to present. Suffice it to say that in Massachusetts we have 16,898 patients costing in the neighborhood of $7,294,000. Are these cold figures not enough to make any intelligent person inquire as to what can be done? In answer to this question we can reply that much is being done but more preventive work is necessary. Work in a preventive sense should continue actively until the lessening of admissions becomes evident and until a much wider understanding of mental diseases is prevalent.

It is not an easy matter to instill in each individual home the principles of mental hygiene, and often the signs and symptoms are very confusing. Many times do the physicians in our state hospitals hear the saddened mother say, "I cannot understand how my son could be in his present condition (mentally ill.) He never gave me any trouble, remained in his room for hours at a time, presumably reading or studying, would not care to mix with the other boys and did not care for dances or social affairs." It is cases of this kind that present the most difficult and distinct problems. If there had been someone to interpret this boys' attitude of seclusion and indifference to the usual pleasures and if he were interviewed, in all probability, it would be found that he was engulfed in abnormal thinking and that symptoms of mental disease were already present during this period when his behavior was considered so natural. If conditions of this kind could be investigated it would prevent these striking outbursts of behavior which call for an immediate recognizance of the onset of mental sickness. It is difficult for the family to determine a gradual change in one of the members and it is at this point that an understanding of mental hygiene is invaluable as an aid in the checking of serious trouble. It is often the case in the home that mental conditions are minimized as much as possible and the peculiarities of an individual are tolerated and humored but no scientific endeavor is made to determine the thought content because the other members do not or will not call for special advice until the time for remedial measures is past.

It is not to be assumed by this writing that every case of mental disease, although discovered early, can be cured. Neither is it possible to cure every case of tuberculosis discovered in its incipiency, but modern medicine teaches that in the majority of cases much can be done and on these premises we base our entire program for better mental health.

It is not possible in an article of this kind to include the individual changes to be watched for but a general statement that any change of personality persisting in a person should be called to the attention of the family doctor and he in turn, if unfamiliar with the trouble or problem, should, as the case may be, refer to a competent psychiatrist or the nearest Out Patient Clinic which is provided by the State under the direction of the Department of Mental Diseases. There is no disgrace in consulting the Out Patient Department of a mental hospital, and there should be no more hesitation in doing this than in consulting the Out Patient Department of a general hospital. But we meet with difficulty often-times in requesting a mental case to visit the hospital for examination and treatment. One of the commonest features in mental diseases is the lack of the so-called insight which prevents the sick person from having any realization of how serious his trouble may be and oftentimes causing him to refuse help of any description. At this point the family must step in and insist upon a proper examination being made. This can be done readily with the young, but it is more difficult to accomplish with adults. The last thing any person desires to have made known to him is that he is insane although he may be obviously suffering from mental disease. Mental diseases are in some respects like a conflagration. In the beginning they might be easily checked, and so it is with mental diseases. Early symptoms diagnosed and checked means the salvaging of a human being, maybe a father or mother with a dependent family. We must face this problem. Every opportunity to learn of personal mental hygiene should be taken advantage of. The home should know and realize the seriousness of this whole matter.

A well organized mental health program costs a great deal of money, and also the establishment of any out patient department, but the good done cannot be measured in money alone. The State of Massachusetts is heavily burdened in its care of these unfortunate dependents. Its record of care is unsurpassed. Its program of prevention should be of the finest and most progressive, insuring the minimum of economic loss in the home because of mental disorder with the consequent lessening of admissions. We are assured that mental hygiene is procurable. Lectures and teachers are available, but the head of every home should be cognizant of the facts as presented in this paper, for there is no insurance against the development of mental disease in any family and mental symptoms as soon as recognized should be as carefully studied as the beginning rash of scarlet fever.

The object of this paper is to bring before the community the fact that the home is the unit, that mental hygiene should be as well understood in the home as the simplest rules of sanitation, and until we are able to impress the home with the necessity of understanding these principles then must we expect a continuation of the present high admission rate of our mental hospitals.

ENVIRONMENTAL HANDICAPS OF 400 HABIT CLINIC CHILDREN

By Bertha C. Reynolds

Massachusetts Division of Mental Hygiene

The elect children who formed "the four hundred" were chosen quite democratically from the first 492 applications to the habit clinics of the Massachusetts Division of Mental Hygiene in the first eighteen months of their operation. Every record was taken except 92 which were slight service cases lacking a social history. A distribution by age showed that 67.5%were under 6 years, 84% were under 8 years and all but 2.5% were under 12 years of age. The children were referred to the clinic by visiting nurses or social workers, or in a few cases by their parents.

The home backgrounds of the children studied may be roughly indicated by the fact that 66% came from homes where foreign customs were predominant and from neighborhoods made up largely of people of their own nationality or race. In 43% of the whole number this was Italian, in 23% Jewish. About 25% ot the children were from American born parents. In spite of the fact that the firsn four clinics were started in so-called poor neighborhoods of Boston, only one ih ten of the whole number of children was found to be suffering for lack of the physical necessities of life.

A meagre environment, however, did handicap to some extent 322 out of the 400 children. Suppose that we assume that a normal home should give to a child not only food and shelter and cleanly care but some home training in conduct, some idea of the orderly control which we expect government to exercise toward its citizens and which a young child must get through parental discipline, some of the culture of the group to which he belongs, an opportunity to express himself in play or in simple duties, affection from his own circle and some chance to mingle with other children of his own age. In this expectation, 80.5% of the 400 children failed to get what a home should give. The remaining 19.5% were considered to have homes adequate for their needs and were habit clinic cases for other reasons,—physical or mental defect or disease or some lack of understanding by their parents being the most prominent. In other words, not quite 20% were problems for the psychiatrist uncomplicated by serious defects in home life.

Only 13% of the children whose homes failed them suffered from poverty. In 280 cases or 87% the failures were in some wise spiritual rather than material. 83% of these got from their parents no teaching that the historian could discover of what right and wrong behavior means. 78% received no effective control in the home. Nearly half, 47.8%, lived in homes that, outwardly at least, showed no cultural interests; 41% lacked opportunity for normal play; 23.6% were cut off from the social give and take of their fellows and 10% were children unloved in the place they called home. What do these figures mean, interpreted in the light of day by day experience in case work?

In the first place, lack of training and discipline must be understood in its racial setting. The first two clinics were started in Italian neighborhoods where the belief prevails that children under school age are "too little" to discipline and where there is sometimes even a superstitious fear that a little child will die after punishment leaving his parents to lifelong regret. The clinics have had to face the question whether this attitude combined with the Latin temperament may be able to justify itself against a more rigorous Northern system. Conceivably, delay in training while the habit-forming years slip by may be more easily made up for in an Italian village, with early responsibility for still younger children, close contact with unyielding natural forces and comparatively stable organization of family life and customs, than in the welter of readjustment of an immigrant home in a city tenement. As far as we can judge, the parents whom we meet are themselves handicapped in their parenthood by their lack of self-control which may or may not be due to lack of early discipline. Some who have thought about the subject want better training for their children, but find it hard to achieve against the public opinion of their group. The particular barrier to discipline in a Jewish community, the next most largely represented foreign group, will come out in the study of oversolicitude in parents.

The figures for lack of educational advantages in the home, though the product of careful consideration in each case, mean little in themselves. They signify absence of reading in the home other than a foreign or American daily newspaper. They may conceal much folk lore and commonsense philosophy which the children may glean from the conversation of their elders, much fine appreciation of music and art, and, in Jewish families especially, an urge to know which sends the children of barren homes eagerly to the opportunities of the school. Practically, the fact that 38.5% of the 400 children studied lacked educational opportunities in the home, or that 225, or more than half, had parents whose handicap of ignorance was a serious one means simply that these children will bring to their school opportunities either a culturally barren soil or one already preempted with a culture other than the one they there meet, and we must at best expect some difficulties as these children have to make school adjustments.

There are no figures on which to base conclusions as to the religious training received by these children. In view of the fact that, as a State department, we were approaching parents, many of them foreign born, with a form of service which they were hardly prepared to understand at first, it was thought wise to make the approach as far as possible a medical one, and to avoid detailed inquiry in any field where prejudice or suspicion might be aroused. From the large number of homes where training in conduct was distinctly lacking and from the impression gained in visiting the families, it seems fair to assume that these children were meeting very little vital religious influence in their homes.

The problem of play is even more serious than that of discipline. One third of all the children studied lacked normal opportunities for play. In every case, a congested city neighborhood was at the bottom of the difficulty. Let him who despairs of the value of safety campaigns try urging mothers to let their little children out to play even in the comparative safety of a block play yard. Children are kept prisoners in homes and on doorsteps till the desire for active play is gone out of them, or they get old enough to defy their distracted jailer. Parents have seen children picked up bleeding from the path of a truck and they fear. They have not seen the connection between playless childhood and warped, inefficient adult years. Some mothers mention fear of moral corruption of their children. Some, in keeping their children in, provide toys and the child gets on with home play, suffering only a cramping of physical activity. In a quarter of the cases, however, a poverty that gave no stimulus to the play spirit or a repression that made any activity in the home impossible cut off from the child even the restricted play-life there.

Since a child gets his best social contacts in play, it is not surprising that, of the 77 children lacking contact with others, 56 were also shut off from play. The remaining 21 played, but alone or with adults in close supervision. 10 of them had no brothers or sisters to play with; 2 were excluded from association with others because of bad habits; 9 did not get along well with other children.

Out of 400 children, we found 33 who lacked an opportunity to learn the meaning of affection normally in daily life. 12 of these were placed out in frequently changing homes or in institutions. Some of these had serious conflicts to remember in their broken homes. 13 were definitely disliked by father or mother, 6 others were victims of the unwholesome emotional attitudes of mentally abnormal parents, still others, loving both father and mother, were in constant conflict because of parental quarrels. Such children could hardly know the meaning of normal family affection.

An effort to learn why homes fail to furnish the essentials of good child care showed certain menacing factors at work. Predominant was friction between parents or relatives in the home of 51 cases. Conflict of ideas about child training in 35 cases, although in 19 of these the parents were quite amicable about their differences, it made a division of authority serious for the child. Early exposure to sex knowledge or experiences was present in at least 27 cases. In scattering instances bad conduct in the children, such as destruction of property, running away and violence against others could be traced directly to examples furnished in the home or immediate neighborhood. These instances are much more frequent in the older group of children. What the seeds are in early childhood which bear fruit in delinquency from eight or ten to twenty years is still largely unknown. The friction in the homes studied was, in half the instances, connected with drink, gambling or lack of parental responsibility on the father's part; with mental defect or disease in one or both parents in 11 cases and with temperamental differences between parents in 10. In 14 families, strife had already resulted in a separation of parents, not always, however, with elimination of the absent parent from the child's circle of influences. A marriage to patch up illegitimate parenthood left seeds of conflict in 7 homes. In 8 cases the discord was between parent and child, or, to an extreme and chronic degree, between one child and another; 6 were cursed by jarring relatives. Racial and religious differences between parents and a wide disparity in age made up among them 8 more sources of irritation. 16 pairs of parents quarrelled over methods of training the children, although in every case there was some other factor present, such as interference of relatives or a conflict between old and new world standards.

It is impossible to say how many of the 400 children studied had been the victims of exposure to sex knowledge and experiences. We know that 16 were noted as sharing the room with their parents where the habits of the latter made it unlikely that the child could escape such knowledge. 8 children were known to have had sex experiences with brothers or sisters or companions. Carelessness at the time of the birth of another child resulted seriously for at least 2 children.

To view the failing or menacing home from another angle, we studied the handicaps of the parents represented. 225 of the children had parents who were prevented by ignorance from making a success of their parenthood. This does not mean ignorance of child training alone, but lack of general educational background so that new knowledge could find a foundation. They were not counted ignorant if they could think about their problems even crudely, and express their thoughts sufficiently to interchange ideas about them.

48 children had parents who were handicapped by physical illness, the fathers so as to be unable to work, the mothers so that housework and the control of the children were at times impossible. This does not include non-disabling syphilis or chronic poor health which gnaws away at one's patience and self-control. The mothers suffered most often by far from gynecological conditions, with heart disease and tuberculosis next in order. The fathers furnished only a quarter of the number of disabled parents and most often with diseases of the digestive system or injuries to the spine.

Mental defect in parents had been diagnosed by phychological examinations in 11 cases and informally in 12 more. Mental disease was known in 8 cases and believed to be present in 4 more by the clinic physician. In addition, 75 children had one or both parents who were considered by the clinic staff distinctly neurotic, parents whose own mental difficulties made an effective relation to their children impossible. In all, mental or nervous disability in the parents was a disturbing factor in the lives of 110, or more than a quarter of all the children.

Aside from those whose parents were suspected of mental disability, 18 children had one parent at least who was distinctly irresponsible in relation to the child. 7 of the mothers seemed indifferent to their children, 5 more were the victims of habits of loose living, 2 were young and so dependent on their mothers as not to count in their own homes. 7 fathers indulged in bad habits and took their family cares lightly.

Is it possible to be too good a parent? 85 children were considered by the clinic to be the victims of oversolicitude. There were certain conditions which seemed to accompany this misfortune fairly often. The child was an only child in 19 cases and the only boy in 23 in all. The mother was neurotic in one fourth the cases. Loss of other children, widowhood of the mother, advanced years of the parents, unhappy married life accounted among them for another quarter. One fourth of the children had had much illness or had met with some injury.

A bit of racial background comes out in the study of oversolicitude in parents. The Jewish mothers made up 58% of oversolicitous mothers or two and one half times their proportion in the whole number of cases. There seems to be a good reason for this in the ideals of the Jewish community. Mothers are proud to tell the clinic worker of their untiring devotion to their children, especially in sickness, and loath to undertake measures recommended to cure a child of peevish self absorption lest their neighbors think them "without a mother's heart." One of the educational tasks of the clinic is therefore to show this group of mothers, the most devoted in the world, how they may sacrifice to make their children wholesomely well instead of rendering them unfit for joyous living.

What of the children themselves? One of the surprising things about the clinic work was to find the large proportion of quite normal youngsters who became patients solely because of abnormal homes and training. 32.5% showed some physical disease or defect, frequently enlarged tonsils or adenoids, or were in rather poor physical condition. Only 6% had a diagnosis of mental defect or disease. 13% more were estimated by the social worker to have a poor personality makeup for social living, constituting them a special problem in adjustment.

The position of the child in the home seemed to have some, though not marked significance. 47 were only children, 80 had no rival children of their own sex in the family. 108 were the oldest, 83 were the youngest, 24 were adopted or placed-out children. 26 were cursed by being the favorite child, usually of one parent, in 3 cases of both. 85 were regarded as peculiar by their families and usually advertised as such among their parents' friends.

The tragic fact about the homes represented in this study seemed to be that the children were not harmonious elements of a happy cooperative family, but combatants on a battle field where usually the laurels were pretty much on one side. In 209 cases they were with the children. The methods used fall into three classes which we may call the method of violence, the method of stubborn resistance and that of playing on the weaknesses of parents through appeal to sympathy or weariness or fear. A resourceful child might use all of them. 104 relied prominently on noise, destruction, kicking and striking, 109 on stubbornness, while 152 whined or cried their parents into submission. 27 of the 152 had developed some terrifying physical symptom which made it imperative that they be given their way. More than half of these had fainting attacks or "blue spells" without physical cause while others vomited, stayed awake at night or otherwise awakened parental solicitude.

In what per cent of cases the parents were the victors is impossible to tell because of the difficulty of distinguishing between normal parental direction and the mistaken control that warps a child's life. Only those cases were listed where parental domination was so clearly unwholesome as to constitute a problem, being either cruel, a manisfestation of parental bad temper, and hence not a method of discipline at all, or else a control by fear. In the latter instance statistics mean little, since obedience is not a test of the child's being really controlled. Fear based on threats which amount to nothing sometimes evaporates leaving a cynicism which may obey but leave its possessor quite the victor in the contest. However, we felt that 22 of the 400 children were dominated by fears, of which the most common were those of punishment or the bogie man in some form, 21 by physical punishment, 24 by lying promises, and a few, 17 by sheer force of will or by emotional appeal to be good because mother was ill or for love of her. This latter form is capable of great abuse, as in the case of one fine lad with a good mother whose need of wholesome play and companionship with other boys of his age was being placed in false conflict with his real love for his mother. The fits of stubbornness by which he reacted to the pull in two directions were still further used against him as evidence that he was not a loving son. Mother-love may curse as well as bless. If it does not fit its dear one for other loves and sterner realities, it kills instead of giving life.

This study reveals a tremendous educational problem. If more than half the parents of these children were too ignorant to live understandingly in the world of common life, if 80.5% of the children failed to find adequate home care, including training in conduct for living with other people, what can be done about it? Almost universally the parents were ignorant of some of the simple, commonsense principles of child training. In addition to trying to furnish a skilled diagnosis of what the real trouble might be underneath a bewildering complex of symptoms the clinic was kept busy teaching some simple ideas as "You cannot lie to your child and expect him to go on believing you," or "Bribing is only payment for wrong doing" or "Fear controls for a little while, but either hardens the child or makes a coward of him in the end." These ideas ought to be as much a part of common knowledge as the use of milk for babies, and, if they were, would make a large part of the habit clinic work unnecessary.

When we as a people, care supremely for the upbringing of our children, care enough to provide training for young people in parenthood as carefully as in reading, writing and arithmetic, when we believe in play enough to see that no child misses it because of the accident of living in a city wilderness, when we learn enough about living together to prevent our quarrels from embittering our children's lives or our foolish love from sapping their vitality, then perhaps we shall be fit to be the guides of the children of the future.

GENERAL PROBLEMS—UNITED STATES VETERANS' BUREAU

By Douglas A. Thom, M. D.

Director Division for Mental Hygiene

With the signing of the Armistice, the U. S. Government was confronted with the monumental task of providing three distinct types of service for the ex-soldier, namely, medical care, training and compensation.

Notwithstanding the fact that the service to be rendered required specialists in their respective fields, the inter-relationship between medical care, training and compensation was so closely interwoven one with the other, that nothing but chaos resulted while they were dispensed under separate and distinct department heads, as the problem was administered during the first four years following the Armistice, the responsibility having been divided between the U. S. Public Health Service, the Bureau of War Risk Insurance, and the Federal Board of Vocational Training.

It was during the summer of 1921 that medical care, compensation and training *were all coordinated* under the U. S. Veterans Bureau. The next progressive step was another administrative move resulting in the decentralization of the Bureau activities, placing more responsibility and giving the necessary authority in the regional offices. This was done much to expedite claims and to facilitate a more satisfactory settlement of the innumerable complicated problems existing between the ex-service man and the government.

The present Director of the U. S. Veterans' Bureau, General Frank T. Hines, deemed it wise to appoint a Medical Council which represents the medical profession in its various fields, such as medicine, surgery, tuberculosis and neuro-psychiatry. This board was appointed in the spring of 1923. The Medical Council is made up of such men as Drs. Baker, Piersol, Crile, Wilbur, Goldthwait; in medicine and surgery, the leading specialists in tuberculosis, and Drs. Salmon, Kirgby, Kline, Campbell, Lorenz, Schwab, McCarthy and White in psychiatry. The Director feels that the Council has been of considerable value in an advisory capacity, particularly in such problems as relate to the general policy that should be pursued in the administration of some strictly medical problems. They have interested themselves in legislation that would bring about the organization of a U. S. V. B. Corps, which would lend certain prestige and stability to the service, comparable to that found in the Army, Navy and Public Health Service. They have advocated the development of diagnostic centers, dealt with policies relating to the organization of out-patient clinics, and at all times advocated medical care on the highest professional plane that was compatible with the necessary routine of a big machine.

It occurred to me, in spite of the fact that statistics are invariably looked upon with a certain amount of forbidding and dismay, that a few general statements about the activities of the Bureau would be of interest:

Rehabilitation

The peak of the load for ex-service men in training was reached during the early part of 1922 when 110,000 men were being trained, but has dropped steadily up to the present time (March 1, 1926) when less than 15,000 men are in training:

Number of men entered training in Section 1	157,667
Number of men in training at present, Section 2	14,116
Number of men rehabilitated	104,120

Of 10,000 men rehabilitated, an average increase in salary over their last salary prior to entering service was $261.54.

62% of the men who have completed training are now getting compensaton. Prior to January 1926, every man was given the same rating for the same disability, that is every man that lost a thumb or leg received identically the same rate of compensation. An effort is being made at the present time to rate the ex-service man on the reduction in earning capacity in pre-war occupation, that is a violin player who lost his left thumb would get quite a different rating than the clerk who had the same disability regardless of the training in which they are rehabilitated. 13,905 up to January first failed to complete their training on account of illness or injury.

All training will cease June 1, 1926, unless the present law is amended by the Legislature now in session.

Training has been closed for the ex-service man since June 1, 1925.

The average cost to date for training per man (section 1)	$4,080.00
The average cost to date for training per man (section 2)	546.00

Section 2 training is training without maintenance.

Medical Service

The peak of the hospital load was reached March 1, 1922, when there were 30,890 patients occupying beds in hospitals. This was gradually reduced until June 30, 1924, when there were 21,730 hospital beds being occupied.

The World War Act of 1924 which extended the treatment to a large group of cases heretofore not considered entitled to care, resulted in many cases making application and receiving hospital treatment, so that, on May 1, 1925, there were 30,753 cases in hospitals.

It is of interest to note that the maximum number of cases 12,344, in hospitals for the care and treatment of tuberculosis was reached February 1, 1922. At this same time the peak of the medical and surgical load was reached, with 9,633 patients. The neuro-psychiatric hospitals, however, did not reach the peak of their load until December 12, 1925, when they had 12,850 cases under their care.

At the present time, 21.8% of the compensable are neuro-psychiatric, 66% general medical and surgical, and 21% tubercular cases.

The following statement with reference to the neurotic and psychotic cases is worthy of note:

Total number of N. P. cases under medical care June, 1923	28,256
Total number of N. P. cases under medical care Dec. 31, 1925	47,254
Total number of Psychotic cases under medical care June, 1922	11,612
Total number of Psychotic cases under medical care June, 1925	20,535

The World War Act of June, 1924, previously referred to, opened up the hospital doors for all types of cases to enter for treatment. It was, however, the neuro-psychiatric group which availed themselves most readily of the new legislation. It appears from statistics that this act which extended the period in which claims might be filed for treatment and compensation opened up 31,000 new claims which could not have been allowed under the old act. At the present time there are 10,680 neuro-psychiatric cases receiving permanent and total rating, about 6,884 receiving a temporary total rating. The permanent total ratings have doubled during the past two years. To a very large extent, all the neuro-psychiatric patients are being cared for in government built and operated hospitals. There are, however, 2,652 neuro-psychiatric cases in contract hospitals.

Compensation

Compensation that is being granted to the ex-service man by the government runs up into tremendous figures. The monthly awards on all cases at the present time is $8,086,400, while for the neuro-psychiatric cases alone over $2,000,000 is being disbursed each month. During the year 1925, the total disbursements for compensation equaled $129,597,000, while the total cost for operating the U. S. Veterans' Bureau for 1925 was $393,000,000. Total appropriation is $405,000,000 for 1926. The cost of constructing new hospitals under government contracts where there has been such urgent demand for hospital beds would be extremely high. It is stated that the Northampton Hospital, with 462 beds cost at the rate of $5,602 per bed. The hospital at Chelsea, New York, 400 beds, cost $6,220 per bed. The Little Rock Hospital, Arkansas, 300 beds, $2,196 per bed. The average cost of construction in all hospitals has been nearly $4,000 per bed. There are, at the present time, 16 neuro-psychiatric hospitals. The average number of patients is 6,534, with total replacements each year of 8,076. The present turnover is about 128%. The average cost per capita in the neuro-psychiatric hospitals of patients is $3 per day. In the tuberculosis hospitals, it's about $5.25, and in the general hospitals, $4.90.

The foregoing statistics present in a very general way the tremendous problem which the U. S. Veterans' Bureau has been facing in trying to meet the demands of the ex-soldier, public, and the press, in treatment, training and general rehabilitation of the ex-soldier. Notwithstanding the fact that there have been innumerable delays in the hospital construction, poor judgment in the placement of trainees, mistakes in judgment here and there with reference to the medical welfare of certain patients, one cannot but feel that under the direction of General Frank T. Hines much has been accomplished both in matters of administration and medical service.

PERSONALITY DEVIATIONS AND THEIR RELATION TO THE HOME

By Sybil Foster

Community Health Habit Clinic

Hours might be spent on this subject but today there will be time only to point to a few of the outstanding situations which we have found tend toward the development of the "unusual" or exaggerated personality.

In our study of the 1000 children already known to the Habit Clinics in Massachusetts, we have been continually impressed with the fact that habits or conduct reported as alarming or annoying are, time after time, only the natural response to the stimuli these children have received from their home setting.

To have been referred to the Habit Clinics indicates that to some one person at least the child has appeared deviated from the normal in one way or another. The question may here be raised of what is a deviated personality and what is normal? Let us say that a person whose conduct varies markedly from the established rule and custom of the environment in which he happens to be placed may be considered deviated from the normal. Each one of us is the product of his inherent makeup played upon by the forces in his particular environment and in the great majority of cases a study of the social setting of an individual will show quite clearly the causal factors at work which are producing the twists of personality.

Examples of deviation from the accepted standard are seen about us on all sides and many times, if they find their proper groove, they prove leaders of thought and action and contribute greatly to the world's advancement. Take, for instance, Patrick Henry, the Virginia patriot.

In his youth it was generally considered by his family and friends that he was doomed to mediocrity. Yet it may be said he touched the match which started our Revolution. William Wirt, his biographer, has given an interesting picture of his personality. His school education was a farce; he was too idle to gain any solid advantage from the opportunities which were thrown in his way; he was passionately addicted to the sports of the field and could not sustain the confinement and toil which education required; his efforts were desultory and became more and more rare until at length when the hour of his school exercises arrived, Patrick was scarcely ever to be found; he was in the forest with his gun or over the brook with his angle rod. He would sit for hours by the brookside watching his fish line, lost in enjoyment of his thoughts and the stillness of the scene. He never mixed in wild mirth with the equals of his age but would sit by in silence and abstraction with no responsive smile or jest, yet keenly observant of all that passed. He gave no evidence of precocity, no flash of wit, or striking sentiment indicative of his future character. His propensity to observe and comment upon the human character was the only circumstance which distingushed him advantageously from his youthful companions. In business he was a misfit; he hated the confinement and application to detail and shifted about adding failure to failure. As a last resort he took up law as a profession. It soon became evident that he had unmistakably found his place in life. From this point he enters into the history of the nation.

Although a few of the "unusual" individuals will undoubtedly become genuises and leaders, still the dividing line is narrow and frequently only a matter of chance or fate or whatever we have a mind to call it. The rank and file will go to fill the roll of misfits unless circumstances permit many readjustments. How often we see in social life a delightful woman, heedless of detail and lacking in responsibility, who rather clings to her vagaries as a charming bit of individualism. With money, efficient servants and a devoted husband, she may slip through life at ease. Suppose, however, her lot happened to fall among the less fortunate—with little in the way of comfort or conveniences, with three or four children frequently ill, with an intermittently supporting, irresponsible husband, she would be totally unfit to meet the demands of the situation. It would not be long before she became labelled "a poor manager," "shiftless," or "hopeless"—a misfit in the scheme of things.

If twists and peculiarities of personality are to be avoided, in so far as possible, the start must be made in early years. During the first five or six years of life, the home plays the most important role in the child's development. The personalities of those with whom he comes in close contact make up, to a large extent, the forces which are to play upon him during this formative period. Because of his plasticity and suggestibility, it is most important that he be surrounded only by those who are able to provide him with calm, wise guidance and an atmosphere free from friction and cross currents. The home divided against itself often becomes the battleground on which many a child's future is sacrificed. It has been said that "an individual's outlook and point of view in dealing with many of the most important questions of human existence can be expressed in terms of the position he has taken up with regard to the problems and difficulties arising within the relatively narrow world of the family."*

In infancy the child is of necessity totally dependent on others for life itself as well as for comfort. Gradually this dependence must be thrown off until, as a well-rounded adult, he stands alone and self-sufficient. This growth of self-reliance in the child is one of the hardest things many parents have to meet. By making infancy too attractive they may definitely, although unintentionally, hamper the child's development. This is the case with a little girl of four whom we have seen recently. Because of the solicitude and over zealous care of her parents, she has remained dependent and clings to the privileges of babyhood. In order to make the child sleep her mother lies down with her, to make her eat she feeds her, and she also dresses her. Lest the child tire herself, the mother drags her to school on a sled in snowy weather and in wet weather she carries the youngster across the puddles. Each difficulty or rough place this child should be learning to meet is smoothed over or side-stepped. It has now reached such a point that out of her mother's sight the child becomes panicky. If things do not go her way, she screams or resorts to vomiting as a means to obtain her ends. She has had no playmates as she has never been allowed out with other children because her parents feared accident in the streets or contamination by undesirable neighbors. She is the only living one of five children, the others having died at birth or in infancy. This has caused the centering of the parents' affection and anxiety on her and is preventing her from making a good adjustment to life.

It is, of course, easier to do things quickly for a child than to let him take his time. But patience and courage are needed on the part of the adults for a child has to explore and blunder in order to build for himself a basis of experience from which he can form his judgment of what to do and not to do and of what will bring him success or failure.

Undue solicitude on the part of the parents often causes marked changes in the personality of a child. After a serious illness or accident which has placed him in danger and caused concern in the household, it is difficult to control wisely. The family may cease to exert authority, fearing harm will result and it takes only a short time for a child to learn that with his symptoms he may control his environment.

We recently saw a child of nine who was brought to the clinic after having been

*J. C. Flugel—"The Psycho-Analytic Study of the Family": International Psycho-Analytical Press, New York, 1921.

excluded from the public schools for a year because of conduct so vicious she could not be tolerated in the group.

She had been a normal, friendly youngster until a little more than a year before when she was knocked down and run over by an automobile. She was taken to a hospital and remained unconscious for several days. Later examinations and X-ray observation showed no evidence of injury although she complained of abdominal pain and headache.

Her family was most solicitous. The older children and even her twin were made to give way to her wishes and she became the center of much attention and concern. No discretion was used in talking before the child, the whole affair was gone over in detail and the mother constantly asked her how she felt. Being easily suggestible, the youngster quickly acquired many physical complaints. Her frequent response became "I don't feel well" or "My heart bothers me." If aroused she would explode in outburst of temper. Her conduct at school became defiant and belligerent. On one occasion she gouged the face of a schoolmate with her finger nails. Another time she pursued a boy into a delicatessen's shop and threw an over ripe tomato at him, missing her aim and ruining a pan of fresh pastries. After several trials she was finally expelled from school, having earned the reputation among teachers and playmates as being "crazy"—a role which she, by her impulsive acts, well filled. The family obtained a private tutor for her and this increased her claim to invalidism, causing her to still further stand out from the group as an unusual personality. When first seen at the clinic she appeared to be in full command of her environment.

Physical examination showed her to be in good condition with no basis for her complaints. Psychometric tests gave her a "low normal" rating with good general ability. The situation was gone over carefully by the psychiatrist with both mother and child. Arrangements were made to reinstate her in school. The whole matter was explained fully to the teachers who, although dubious, after persuasion agreed to give her a chance. The mother was given suggestions for handling her at home. Emphasis was placed on a desire for good health and the accident and its effects were minimized. All talk in regard to her symptoms was absolutely tabooed in the presence of the child. The response to this treatment was immediate. Her difficulties outside the home did not recur. She was given many wholesome opportunities for attention and approbation in her school contacts. At home the progress, although slower, was steady. The many personalities in the home made the task of changing attitudes a difficult one, but gradually this child is falling back into her proper relationship to the others in the household.

Anxiety often defeats its own ends by creating such an intense emotional situation that the difficulty from which the anxiety arose is only exaggerated.

Take the case of a distracted young father whose wife died of tuberculosis. Fear that his one child may be susceptible to the same disease has made him watch her physical condition closely. To him, gain in weight appears as the one important thing. Therefore, three large meals a day are forced upon her whether she will or no, each meal becoming the occasion of coaxing, pleading and threatening and ends either in the father's feeding this child of six every mouthful she eats or in a complete loss of temper on his part and the administering of a sound spanking. Either result only makes the desired end harder to obtain.

The interference of relatives is always detrimental to children and makes wise and consistent discipline extremely hard. The danger is particularly great in families of the European and Eastern races where the traditional custom is for the relatives to live together and for the grandmother to be looked to as an authority on all matters pertaining to the children. The older generation resents the introduction of modern theories in regard to the upbringing of the children and is inclined to scoff at "American ways." A young mother must have strong courage of her convictions to try out new methods in defiance of the grandmother for if anything goes wrong, the blame is sure to be hers. This lack of understanding tends toward constand friction and bickering.

One woman after talking with the psychiatrist at clinic went home determined to break the nursing bottle and so stop her four year old child from taking her milk in this way. This was to be the first step in helping the child develop her independence and in the giving up of many infantile habits clung to tenaciously. The mother broke the bottle but the grandmother arrived in time to see the little girl screaming in wrath. Declaring the doctor's suggestions were all ridiculous, the grandmother promptly bought two more bottles. The mother with a weary shrug says "What's the use—I break these and she just buys more. She's my husband's mother and I can't fight her." The same thing occurs at every attempt she makes toward constructive training of her child

In another family the little girl of five has learned skillfully to play her over-solicitous, meddlesome great aunt against her father and stepmother to her own immediate advantage. The congested section of the city in which she lives has been kept in turmoil for months over the family rows and several agencies have been called in to try to straighten things out. While living at home with father and stepmother who are harsh and indulgent alternately, if things do not suit her! the child runs with lurid tales of the abuse she has undergone at home to her great aunt, four doors down the street. She has learned the trick of repeating in parrot like manner to each new visitor who enters the home, "My father beats me and my mother locks the door and won't let me in." When tired of living with her aunt, she returns home again carrying tales. What one relative will not allow, the other is sure to permit because of the bitter enmity between them. The neighbors add fuel to the fire carrying gossip back and forth. Frequently there are actual "fist fights." I witnessed one between the great aunt and stepmother when it required two men to separate them. Steeped in this atmosphere of strife, there is little wonder that this youngster turned up at the clinic with her mental life partially disintegrated. She was unable to eat or sleep properly and was incorrigible and domineering to an exaggerated degree, frequently giving way to paroxysms of temper. On her first visit to the clinic she became so enraged that she screamed, stamped and finally stripped off her clothes and tossed them about the room. When she saw this behavior netted her nothing, she quietly picked up her things and put them on again although still looking sullen and defiant.

Upon a careful survey of her home and neighborhood setting, it was decided to try placement away from home at once, while an effort was made to change the attitudes in the home. We heard just the other day that after a few months' stay in her foster home, the agency who has her in care would like to return her as they wish to place only *problem children* and she has presented no problem since placed!

We speak of a child's environment, yet often the term *environments* is truer. Take, for instance, a Syrian lad of five, the oldest child and the only boy. His parents are young, American born and educated and are trying to live up to American standards as they see them. They wish to bring up their children to be well-trained and disciplined youngsters. On the first floor of the same house live the Syrian grandparents, holding to their old world ideals and customs. They idolize the children, particularly the boy, the future head of the family. He is pampered and waited on by them and when obedience is demanded by his parents, he is told by his grandparents that he is to be the head of the household and that nothing is too good for him and that he does not have to obey. He soon learns defiance and disregard for his mother's wishes and must be in constant conflict because of the clashing standards and demands of his environments. We are apt to feel that the environment in a given home is the same for all the children, yet we often find that it is totally different because of attitudes of the individual members. Special likes and dislikes and open favoritism all tend to foster jealousy and injured feelings, which are followed by varying results in the way of personality twists or deviation.

We have been interested in the study of two brothers. One at two years is vivacious, active and pugnacious, striking and slapping his brother or playmates to gain his ends and domineering over his brother two years older. He is responsive and friendly, readily drawing the adults to him because of his cheeriness and air of bravado. The other, at four years, is quiet and retiring. He gives way at once to his little brother's demands, making no effort to assert his rights, is shy and unresponsive and inclined to be whiney, fretful and over sensitive.

A study of the home uncovered the following situation. The marriage of the parents had proved fundamentally unhappy. When the older boy was a year old, the parents separated but after several months the mother allowed her husband to return because of her anxiety over the youngster who had been devoted to his father and was apparently grieving for him. The children's earliest recollections must have been of constant quarreling and even "plate throwing." The family was lined up with the mother and younger boy opposed to the father and older boy, each parent defending the special favorite against punishment and discipline by the other. This continued until the father left home for good about a year ago. His going did away with a great deal of the friction but left the older lad without his champion. After a few attempts to assert himself, he sank to his present state of letting things go without a struggle. He lives in an atmosphere of discouragement and discontent. He is the object of fault finding, scolding and blame and he feels inadequate and discriminated against.

The younger one, on the other hand, receives praise and kindly interest and is buoyant and aggressive. He has the backing of his mother who turned her affections to him when unhappy with her husband. The mother and her relatives are unconsciously but steadily exaggerating and making permanent the markedly different personality traits of these two boys who are living in the same physical surroundings.

Time is so short that we have been able to indicate only a few of the many conditions in home life which have been factors in the creation of unusual personalities. There has been no time to show how attitudes have been changed or to tell of the improvements which have followed.

It is not the intent to leave the impression that the home is a destructive element alone in the child's life and should be eliminated but rather to show that it has tremendous force, both destructive and constructive, and that we must bend our energies toward seeing that parents have every opportunity to themselves develop normally and unwarped in order that they may be free to be the splendid factors for good which they should be in the lives of their children. The destiny of every child is social efficiency and the path thereto must be made clear in order that it may be attained.

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DOUGLAS A. THOM, M. D.
GEORGE L. WALLACE, M. D.

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THE IMPORTANCE OF THE MENTAL ATTITUDE OF THE CHILD TOWARD THE DENTIST AND PHYSICIAN

By C. A. Bonner, M. D.,
Superintendent Danvers State Hospital

The child from the cradle is beset on all sides by the likelihood of infections and of injuries which will mean pain or suffering in a greater or lesser degree. Of all the ailments of early childhood, teeth conditions are apt to be the most painful and to leave the deepest impression on the plastic mind of that age. In the natural course of events at four or five years the temporary teeth begin to decay and become troublesome. Therefore, the child at this tender age comes in contact with the physician and dentist as the condition may arise.

These conditions are hardly preventable from a physical standpoint. The members of both professions should realize the susceptibility of the child's mind to new and unfavorable impressions primarily created by painful experiences. This necessitates that the greatest care be used in dealing with them, for hurried, careless or unwise treatment from professional men may mean the development of a very unfortunate mental state in the young.

In order that a favorable attitude may be created in the child's mind regarding doctors and dentists it is essential that they should be cognizant of certain fundamental factors which have to do with the psychology of childhood. It should be recalled that fear lurks in the mind of the little one as a primitive emotion and that stimulation is all that is necessary to crystallize it or it may exist indefinitely. It may be only temporary.

The child very early develops a point of view toward those who render him professional treatment depending on home training and previous experiences. If at the time of the first visit the situation has been explained beforehand by the parents, he is apt to accept it as an ordinary occurrence and one that is going to benefit him. On the other hand if he has been subjected to unwise handling it becomes a fearful ordeal.

It is not uncommon for the older children in the family to inform the younger that they may expect terrible suffering at the hands of the doctor, this purely by an over exaggeration of perhaps some minor incident that has befallen them in the past. The older children enjoy the thrill of telling the younger ones how courageously they have borne various medical and dental experiences. There is a natural desire on their part to over-emphasize those things which will allow them to frighten the younger members of the family and increase their own self-importance. The children alone are not the only offenders for parents and other members of the family are prone to discuss before them physical ailments or teeth conditions for which they have sought relief in a visit to their dentist or doctor. These memories are often overheard and stored up by children until such a time as they are facing the reality of a visit themselves.

From actual experience many of us can recall painful visits to the dentist in our younger days when modern methods of reducing pain were not in common usage. It was then usually a question of being restrained in the dentist's chair by some husky parent and the formidable forceps introduced and the offending tooth yanked out with little ceremony. This was indeed an era of Spartan courage, forced to be sure, but nevertheless suffered with a great deal of anguish.

The anxiety and fear of further ministrations to such a tender condition as an abscessed tooth was not greatly comforted by the knowledge that the crisis had by no means been reached until the dentist had accomplished the full purpose of extraction. How many of us as adults, who have suffered these afflictions of one kind or another, dread to visit the dentist and physician and really do postpone necessary periodical treatment for this very reason. The firmness with which these ideas are engrafted in the adult mind goes to prove conclusively that unfavorable impressions gained in childhood are carried over as fears into adult life.

What can parents do with their children to promote a kindly and friendly feeling toward the dentist and doctor? From a very early age we should inspire in the child a feeling of confidence toward these men; we should endeavor to present them in the light of friends and to create an understanding of the necessity for good teeth and good health. The child will become interested and cooperative and he will find it all very much worth while. These are elementary facts to be sure but they can be utilized with success.

A word of warning as to imparting only the truth to the child. Nothing is more reprehensible than to deceive him, that is to picture an entirely painless procedure only for the child to learn, much to his distress, that his folks have lied to him and that he has been made to suffer when they had full knowledge that this was to take place. Honesty and the placing of truthful facts before the child is infinitely to be desired, namely, that there will be a certain amount of pain which will have to be bravely borne and that after this has been passed there will undoubtedly be entire relief. The child has to suffer moderately but he does not have to bear the feeling that in addition to his suffering his people have knowingly misled him.

An unusual understanding of the mental life of the child is essential to the dentist and physician who has to treat them. The brave and confident child, well-informed and ready to accept pain in a healthy and intelligent manner, can at once be eliminated. But the child who is in need of sympathetic encouragement or who is overly anxious or nervous should be recognized and given special consideration. The prevention of physical shocks which are going to react unfavorably on the nervous system is an important part in promoting good mental hygiene in children.

Haste is impossible and uncertain results are the out-come. Patience, on the other hand, is the safest and sanest attitude to keep in mind. Very little can be accomplished by the use of undue force and compulsion. There should be rather a lenient, tolerant attitude which will accomplish everything and not seriously promote the fears which we are so assiduously trying to prevent.

The personality of the professional man is the next consideration. A smiling, jovial attitude, with a few words of encouragement and explanation, is the procedure which will best accomplish the purpose desired, whether to extract an aching tooth or to examine diseased tonsils. The child should be given time to adjust to a new situation and we owe to him a careful explanation of the new things that are about to confront him.

The normal child in sickness or in pain is usually in a wrought up and nervous state and more susceptible to shock to the nervous system than when in good health. The doctor must take added precautions for this very reason so that future visits can be made without unduly alarming the little patient.

The professional man should keep in mind the relation that exists between painful experiences to the child and the future mental twists which may occur. He should act not only as an advisor to the physical health but also play the role of mental comforter.

It is the purpose of this paper to point out that as medical men we should remember that children are not adults and that they require special knowledge and special treatment if we are to successfully care for them, not only keeping in mind their immediate needs but their future mental life. To realize that habit formation is continually influencing the child and that we can deal with them wisely or unwisely depending on our knowledge of their mental makeup. Patience, sympathy and kindness should be the foundation of all of our relations with the little ones.

*Lecture in Mental Series given for Benefit of the Habit Clinics.

A CHILDREN'S CLINIC AS A STATE HOSPITAL CONTRIBUTION TO THE COMMUNITY

By Henry B. Moyle, M. D.

Director of Out-Patient Department, Worcester State Hospital.

Preventive medicine needs no apology; its claim to primary importance in the life of the community is being admitted to a steadily increasing degree on every hand. It is then but in line with this general trend that psychiatry should turn from its exclusive concern with those whose power of adjustment has entirely broken down and devote some attention to prevention. And here, more than in any other branch of medicine, building for health means working in the field of childhood. The possession of a healthy attitude towards the environment, towards ones own self, an emotional life responsive but controlled—these all must begin developing in childhood if they are to characterize the grown man or woman. Conversely the serious failures of adaptation found in later adolescence and maturity are practically always rooted in personality "twists" reaching far back into early life.

Believing these things and further that the State Hospital should seek every practical way in which it might serve the community, the Worcester State Hospital began in 1921 a "mental hygiene" clinic for children. This was intended largely as a demonstration of the need for such work and of its possible helpfulness to schools, courts, children's agencies and all those in the city dealing with maladjusted children. The fact that this is a rather unusual field of activity for a State hospital to enter makes it seem worth while reporting what methods are being used and what measure of success the work has achieved.

As up to the present time the work has been done entirely by members of the hospital staff, it has been largely something done for rather than with the community. It has, however, been very definitely our conviction that the task of the clinic was not merely that of offering advice as to the problems presented by individual children—much less that of placing labels on them as some expected—but also that of impressing upon the public the need for such individual study of maladjusted children as the clinic attempts to do. The fundamental test of the success of the clinic, therefore, lies in the extent to which the community shows acceptance, active participation and support. The methods are in general those employed by the "child guidance clinics" organized by the National Committee for Mental Hygiene under the Commonwealth Fund. No matter what specific problem any given child may present which brings him to the clinic, the attempt is made to visualize him with his capacities and his handicaps reacting in a certain way to a definite situation. This is, if you will, axiomatic in modern psychiatry but unfortunately it has not been axiomatic in studying children and their failures—

precisely where the psychiatric method of personality study would seem most applicable.

It need only be mentioned that this involves a careful study of the child's physical capacity, any obvious defects limiting his activity, his nutrition, health habits and, in some cases, the functional activity of the endocrine glands. A psychometric examination is also made to determine intellectual capacity, using both the Binet and various type of achievement tests. The need for this data is of course obvious—not least when it serves to rule out mental defect as a basis for delinquency or other type of maladjustment.

So much for the child's working capital, so to speak. Not less important is the knowledge of the home environment, the family stock, the child's own previous physical and social history and his general behavior, reactions in the home, school, etc. What friends does he make, what are his recreational and other interests and finally what is his general personality makeup? Part of this data is secured through the social worker and part through the psychiatric study at the clinic. The final interpretation of the whole is made after conference by the whole staff and recommendations made to the parents or others interested by the psychiatrist who is in charge.

It need hardly be said that while at times the factors are obvious, a considerable number of children require a good bit of study before any adequate opinion can be given as to their needs and contact, and supervision may be necessary for a fairly extended period. In cases coming from schools and private homes, this is effected by a trained social worker attached to the clinic. It is one substantial evidence of the impression made by the work of the clinic that recently the city has voted money to pay the salary of this worker and thus for the first time is taking a part in supporting the enterprise.

It is of some interest to note the sources from which these problem children come. At first a large proportion came from agencies dealing with children, both dependents and delinquents. Gradually as the work of the clinic has become more widely known an increasing number have been referred by schools or brought by parents themselves. During the year 1927 a total of 107 children—besides 35 girls seen at the Girls' Welfare Home for unmarried mothers—were studied and of these 15 were definitely under par physically; 37, about one-third of the total, had some degree of mental retardation as a factor in the situation, and in a large proportion of them all environmental factors, such as non-functioning homes, were important in causing the difficulty or failure in adjustment.

Mention may properly be made of two ways in which the clinic has attempted to extend its work aside from the study of children referred to it. A weekly case conference is held from October to May for children's workers, teachers or others interested in discussion of the casual mechanisms of conduct problems or other maladjustments. Case histories are used as the basis for these conferences and the discussions include also practical methods of meeting the problems involved.

It is not too much to say that this conference is becoming a real forum for the discussion of child welfare problems in the community. Then also a little over a year ago a citizens' advisory committee was organized which has monthly meetings at which the problems met in the clinic are presented and through this committee a great deal is being done to stimulate the interest of the community in the needs of its children and to create an atmosphere which will make such work much more effective.

Finally there seems no question in the minds of those knowing the work of the clinic that it offers a resource of real value to those dealing with problem children or even the problems which normal children present. On the other hand the increasing public support and the continuous demand for such help on many sides has convinced the hospital that the work has justified itself from many angles—

even that of better community contacts for the hospital itself. There seems no doubt that many communities and many hospitals would discover similar mutual advantages in such relationships.

STATISTICAL COMPARISON OF PSYCHIATRIC DIAGNOSIS IN SOME MASSACHUSETTS STATE HOSPITALS DURING 1925 and 1926

By
Edwin B. Wilson, Ph. D.,
and
Julia Deming, M. D.,
Department of Vital Statistics, Harvard School of Public Health.

Incident to a study at the Boston Psychopathic Hospital of the social problems of some types of psychoses, especially the schizophrenic and affective groups, aided by a grant from the Laura Spelman Rockefeller Fund, it was suggested that a new statistical comparison of the diagnoses made there during the brief stay of the patients, with the diagnoses subsequently made at the various State hospitals to which the patients were later sent, might be helpful in separating for further study those cases in which there was agreement from those in which there was disagreement in classification. It is realized that the cases remanded to State hospitals are from the social point of view not a fair sample of all those studied at the Psychopathic Hospital because presumably these would be on the average the more serious cases. In previous studies by Southard and Stearns1 (1914) and Lowrey2 (1918), while they were at the Boston Psychopathic Hospital, the wording of the titles and of the texts was modestly chosen so as to imply that revision of diagnosis might well indicate errors in the originals. Owing to the shorter time available for the study of the majority of patients at the Boston Psychopathic Hospital3 (7-10 days) and the relatively longer time (one month and up) at the State hospitals it might be fair to assume that the revision has a better chance for accuracy than the original, but as the doubtful cases at the Boston Psychopathic Hospital are often sent on as unclassified or undiagnosed (11.7 of all the cases, see Table 1) and as the State hospitals leave only 4.8% undiagnosed it is possible that anything that might appropriately be called errors may be covered, to no small extent, in the group called undiagnosed and that the differences in classification which could be revealed by a gross statistical study might to a large degree represent differences in point of view of different psychiatric schools of thought and differences in information that may become available on longer study and fuller histories from relatives, etc. In any case the assignment of error, if any, to any diagnosis could only be made on the basis of a critical revision of each case clinically as seen by both diagnosing staffs, and not from statistical material.

It is the purpose of the present study to give to the statistical material a more detailed analysis than in previous studies, to point out what are the statistically significant differences between the Psychopathic and subsequent State hospital diagnoses, and to compare our results with those of the previous papers.

TABLE I.

Bsoton Psychopathic Hospital 1925–6

	(1) Dementia Praecox	(2) Manic-Depressive	(3) Alcoholic Group	(4) Paranoid Condition	(5) Involution Melancholia	(6) Undiagnosed	(7) Cerebral Arteriosclerosis	(8) General Paralysis	(9) Psychosis with other Brain and Nerve Dis.	(10) Psychosis with other somatic disease	(11) Mental Deficiency	(12) Senile	(13) Cerebral Syphilis	(14) Epileptic Psychosis	(15) Not Insane	(16) Psychopathic Personality	(17) Psychoneuroses	(18) Traumatic Psychosis	(19) Psychosis due to Drugs, etc.	(20) Brain Tumor	Total
1. Dementia Praecox*........	230	44	6	21	1	36	2	1	6	4	3	–	1	–	–	3	–	–	–	–	358 (1)
2. Manic-depressive..........	26	153	1	5	15	23	2	1	3	6	1	2	1	–	1	1	2	–	–	–	243 (2)
3. Alcoholic Group...........	9	1	58	4	–	11	1	–	1	–	–	–	–	–	–	1	–	1	–	–	87 (·3)
4. Paranoid Condition........	17	4	–	23	2	7	–	–	–	–	1	–	–	–	–	–	–	–	–	–	54 (4)
5. Involution melancholia....	1	4	1	1	9	3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	19 (5)
6. Undiagnosed	14	7	1	3	–	20	–	1	2	4	1	–	1	–	2	1	–	–	–	–	57 (6)
7. Cerebral aretriosclerosis....	2	5	2	1	–	5	26	3	4	1	–	6	–	–	–	–	–	–	–	–	55 (7)
8. General Paralysis.........	1	–	–	1	–	6	–	82	2	–	–	–	3	–	–	–	–	–	–	–	95 (8)
9. Psychosis with other brain and nerve disease.......	1	–	2	–	–	2	2	1	9	–	–	1	–	–	–	–	–	–	–	–	18 (9)
10. Psychosis with other somatic diseases..........	2	1	2	1	2	3	–	–	1	12	–	1	–	–	–	–	–	–	–	–	25 (10)
11. Mental deficiency.........	11	4	1	2	–	5	–	1	–	1	24	–	–	–	–	–	–	–	–	–	49 (11)
12. Senile..................	1	–	–	2	1	3	1	–	1	–	–	14	–	–	–	–	–	1	–	–	24 (12)
13. Cerebral syphilis.........	–	–	–	–	–	–	–	1	–	–	–	1	3	–	–	–	–	–	–	–	5 (13)
14. Epileptic psychosis........	–	1	–	–	–	–	1	–	–	–	–	–	–	6	1	–	–	–	–	–	9 (14)
15. Not Insane...............	1	5	3	1	–	8	3	–	4	–	3	–	–	–	2	4	1	–	–	–	35 (15)
16. Psychopathic personality..	2	3	–	3	–	5	2	1	–	–	–	1	–	–	–	3	1	–	–	–	21 (16)
17. Psychoneurosis...........	4	5	1	–	1	1	–	–	–	–	–	–	–	–	–	–	3	–	–	–	15 (17)
18. Traumatic psychosis......	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	3	–	–	4 (18)
19. Psychosis due to drugs, etc..	1	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2 (19)
20. Brain tumor.............	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	2 (20)
Total...............	323	238	79	68	31	138	40	92	33	28	33	26	9	6	6	13	7	5	–	2	1,177
Per Cent of Total....	27.4	20.2	6.7	5.7	2.6	11.7	3.3	7.7	2.8	2.3	2.8	2.2	.8	.5	.5	1.0	.5	.4	–	.1	99.1
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	1(6)	(17)	(18)	(19)	(20)	

*N. B.—Diagnoses "Dementia Praecox" and "Schizophrenia" are treated as the same.
Worcester, Westborough, Foxborough, Boston State.

Percentage disagreement.—Table I gives the information with respect to 1177 cases transferred from the Boston Psychopathic Hospital to the Boston State Hospital (471), Worcester (195), Westborough (324), and Foxborough (187), during 1925 and 1926. The total number of agreements is 682 or 58% and of disagreement 495 or 42%. This disagreement is considerably larger than that indicated by Lowrey (26%). Both figures include those classified "Undiagnosed." To remove these we deduct 20 agreed as undiagnosed from the 682 agreements, leaving 662 agreements. Next there were 37 cases in which disagreement consisted in classification under some diagnosis by the Psychopathic with revision to undiagnosed subsequently; and there were 118 cases in which disagreement consisted reciprocally in classification as undiagnosed by the Psychopathic with revision to a specific diagnosis at the State hospital. The 37 + 118 cases being deducted from the 495 disagreements leave 340, the total residual cases are 1002 with agreement of 66% and disagreement of 34%. The corresponding figure for Lowrey's table is 21%. The percentage of disagreement in both cases is 62% higher in our figure than Lowrey's (34 = 1.62 × 21 and 42=1.62 × 26). The percentage of disagreement in both cases is 24% greater if the unclassified are included (42 =1.24 × 34 and 26 =1.24 × 21).

Is the present percentage (34) of disagreement (excluding unclassified) significantly greater than the earlier percentage (21)? The formula for the standard deviation of the difference $p_1—p_2$ of two percentages is

$$\text{S.D. of } p_1—p_2 = \sqrt{\frac{p_1(100-p_1)}{n_1} + \frac{p_2(100-p_2)}{n_2}}$$

where n_1 and n_2 are the respective numbers of cases; here $n_1 = 1002$ and $n_2 = 387$. Hence S.D. = 2.5, whereas $p_1-p_2 = 13$ is above five times the standard deviation, which indicates significance. The samples are large enough so that the difference cannot be fortuitous in the sense of a game of chance. Why might it be expected that differences today should exceed those of 10–15 years ago? It may be suggested that in those days Kraeplin's system, propounded a score or more of years earlier, had become very widely accepted; during the past decade the psychological or psycho-genetic or psycho-biological or dynamic points of view have been more and more developed by their originators and have been gaining a large but not yet universal acceptance. Periods of changing points of view tend to show increasing statistical differences in classification.[4]

TABLE II

Diagnosis	B. P. H.*	O. S. H.*	Difference	S. D.
1. Dementia praecox	323	358	+35	22
2. Manic-depressive	238	243	+ 7	20
3. Alcoholic group	79	87	+ 8	12
4. Paranoid condition	68	54	—14	11
5. Involution melancholia	31	19	—12	7
6. Undiagnosed	138	57	—81	14
7. Cerebral arteriosclerosis	40	55	+15	10
8. General paralysis	92	95	+ 3	14
9. Psychosis with other brain and nerve disease	33	18	—15	7
10. Psychosis with other somatic disease	28	25	— 3	7
11. Mental deficiency	33	49	+16	9
12. Senile psychosis	26	24	— 2	7
13. Cerebral syphilis	9	5	— 4	4
14. Epileptic psychosis	6	9	+ 3	4
15. Not Insane	6	35	+29	6
16. Psychopathic personality	13	21	+ 8	6
17. Psychoneurosis	7	15	+ 8	5
18. Traumatic psychosis	5	4	— 1	3
19. Psychosis due to drugs, etc.	–	2	+ 2	1.4
20. Psychosis with brain tumor	2	2	–	2

*B. P. H. is used for Boston Psychopathic Hospital and
*O. S. H. for the Other State Hospitals here considered.

Differences of classification.—What are the statistically significant differences in the number of cases classified under the different individual diagnoses? To get a quick estimate accurate enough for the immediate needs we may observe the standard deviation of the difference in the number of cases is roughly (when those numbers are small compared with the total of 1,177) the square root of the sum of those numbers themselves. (Table II)

The only cases which exceed twice the standard deviation are:

(6) "Undiagnosed," in which there is a large shrinkage—as might perhaps be expected.

(9) "Psychosis with other brain and nerve diseases," in which there is considerable skrinkage, much of which may well mean not fundamental disagreement so much as shifting in classification to more restricted organic groups.

(15) "Not Insane," in which there is a very large increase. This is not surprising. For, first, the Boston Psychopathic Hospital would generally not forward but discharge those patients considered not insane, and second, there might well develop some recoveries.

It should be observed that there must be a tendency on the whole for an increase in the numbers in any classification other than undiagnosed to take care of the great shrinkage in this group.

TABLE III.

(1) Diagnosis	(2) Per Cent Totals as Diagnosed by O. S. H.	(3) Cases	(4) Per Cent	(5) Undiagnosed (B. P. H.) Theoretical Cases	(6) Difference	(7) S.D. Diff.
1. Dementia praecox	30.4	36	26.0	42	+6	8
2. Manic depressive	20.6	23	16.6	28	+5	7
3. Alcoholic	7.3	11	7.9	10	—1	5
4. Paranoid condition	4.5	7	5.0	6	—1	4
5. Involution melancholia	1.6	3	2.1	2	—1	2
6. Undiagnosed	4.8	20	14.4	7	—13	5
7. Cerebral arteriosclerosis	4.6	5	3.6	6	+1	3
8. General paralysis	8.0	6	4.2	11	+5	4
9. Other brain and nerve diseases	1.5	2	1.4	2	0	2
10. Other somatic diseases	2.1	3	2.1	3	0	2
11. Mental deficiency	4.1	5	3.6	6	+1	3
12. Senile	2.0	3	2.1	3	0	2
13. Cerebral syphilis	.4	0	0	0	0	0
14. Epileptic psychosis	.7	0	0	1	+1	1
15. Not insane	2.9	8	5.8	4	—4	3
16. Psychopathic personality	1.7	5	3.6	2	—3	3
17. Psychoneurosis	1.2	1	.7	2	+1	2
18. Traumatic	.3	0	0	0	0	0
19. Psychosis due to drugs, etc.	.2	0	0	0	0	0
20. Psychosis with brain tumor	.2	0	0	0	0	0
		138		135		

The second column (2) gives the percentage distribution of 1,177 cases as made by the Other State Hospitals, the third (3) gives the number of cases left undiagnosed by the Psychopathic, the fourth (4) gives the percentage distribution for comparison with column two, the fifth (5) gives the number of cases that should have occurred if the percentage in column two were applied to the number 138, the sixth (6) the difference in the number of cases theoretical and actual, and the last column (7) gives the standard deviation of the difference.

Distribution of "Undiagnosed."—Let us examine the distribution by the State Hospitals of those "undiagnosed" by the Psychopathic. Are they distributed at random or are there indications of failure to classify certain kinds of disorders? To make this examination consider the percentage distribution of all cases at the other State Hospitals and the distribution of the unclassified. (Table III.)

The numbers are so small that few of the differences could be expected to be significant. The number left undiagnosed is disproportionately large, significantly so, indicating perhaps unusual difficulties in diagnosing certain cases. No other case approaches significance nor gives indication of becoming significant unless there were available 7–10 years' experience. The answer to the question is therefore that apart from the higher percentage still left undiagnosed, the State Hospitals distribute the cases left undiagnosed at the Boston Psychopathic essentially at random over their different diagnoses. (The converse is also true, the Boston Psychopathic Hospital had distributed the fifty-seven cases which the State Hospitals rated as "undiagnosed," except for the twenty which it also so rated, essentially at random over its different diagnoses.) From the fact that there is agreed failure to diagnose twenty out of 1,177 cases, it may be inferred that for practical purposes 2% of all cases are undiagnosable, how much this figure should be increased toward the 4.8% left undiagnosed at the State Hospitals must be a matter of speculation; but the random distribution of the undiagnosed indicates a considerably greater real indeterminism than 2%.

Percentage agreement in each class.—Next we may examine the percentage agreement by individual diagnosis. For this purpose it will be well to exclude the two classes *undiagnosed* and *not insane*, both of which for reasons already indicated are asymmetric. We shall exclude all cases rated in either of these two classifications either by the Psychopathic or the State Hospitals. The table will therefore give the percentage agreement on cases limited to those in which there is agreement in respect to the fact that some diagnosis (other than not insane) has been made by both the Boston Psychopathic Hospital and the State Hospital in question.

TABLE IV

No.	(1) Diagnosis	(2) Agreed	(3) Other B. P. H.	(4) Total B. P. H.	(5) Per Cent Agreement	S. D.	(6) O. S. H.	(7) Total O. S. H.	(8) Per Cent Agreement	S. D.	(9) Mean
1.	Dementia praecox	230	78	308	75	+ 2	92	322	71	+ 2	73
2.	Manic depressive	153	73	226	68	+ 3	66	219	70	+ 3	69
3.	Alcoholic group	58	17	75	77	+ 5	18	76	76	+ 5	76
4.	Paranoid condition	23	41	64	36	+ 6	24	47	49	+ 7	43
5.	Involution melancholia	9	22	31	29	+ 8	7	16	56	+12	43
7.	Cerebzal arteriosclerosis	26	11	37	70	+ 7	24	50	52	+ 7	61
8.	General paralysis	82	9	91	91	+ 3	7	89	90	+ 3	90
9.	Psychosis with other brain and nerve disease	9	18	27	33	+ 9	7	16	56	+12	45
10.	Psychosis with other somatic disease	12	12	24	50	+10	10	22	55	+11	52
11.	Mental deficiency	24	5	29	83	+ 6	20	44	55	+ 8	69
12.	Senile psychosis	14	12	26	54	+10	7	21	67	+10	60
13.	Cerebral syphilis	3	5	8	38	+17	2	5	60	+22	49
14.	Epileptic psychosis	6	0	6	100	+ 0	2	8	75	+15	88
16.	Psychopathic personality	3	5	8	38	+17	13	16	19	+10	28
17.	Psychoneurosis	3	3	6	50	+20	11	14	21	+11	36
18.	Traumatic	3	2	5	60	+21	1	4	75	+22	67
19.	Psychosis due to drugs, etc.	0	0	0	0	+ 0	2	2	0	+ 0	0
20.	Psychosis with brain tumor	2	0	2	100	+ 0	0	2	100	+ 0	100
	Totals	660	313	973	67		313	973	67		67
	Median				60				58		60
	(1+4. D. P.+P. C.	291	81	372	78	+2	78	369	79	+2	78
	(2+5. M. D.+I. M.	181	76	257	70	+3	54	235	77	+3	74

The columns show (1) diagnosis; (2) number of agreements; (3) other cases so diagnosed at the Boston Psychopathic Hospital; (4) Total cases so diagnosed at the Boston Psychopathic Hospital; (5) Percentage ofthese agreed to by the State Hospitals with its standard deviations; (6) Other cases so diagnosed by the State Hospitals; (7) Total cases with this diagnosis by theState Hospitals; (8) Percentage thus diagnosed by the Psychopathic with its standard deviation, and (9) the mean of the two percentages.

The reason we cannot specify except inadequately by the mean in the final column, a percentage agreement, is that the Table is asymmetric (as is Table I from which it is derived) so that the percentage of cases in which the State Hospitals corroborate a given diagnosis by the Psychopathic is often different and at times very different from the percentage of cases in which the Psychopathic gives the diagnosis that was ultimately given by the State Hospitals. How different are the percentages? The standard error of the difference, if there were no correlation would be the square root of the sum of the squares of the individual standard deviations; but obviously there is correlation. We shall not attempt on the small amount of statistical material that is before us, to take accurate account of the correlation but content ourselves with pointing out the cases of striking differences, viz.: (4) Paranoid Condition, (5) Involutional Melancholia, (7) Cerebral Arteriosclerosis, (9) Other Brain and Nerve Disease, (11) Mental Deficiency. In all these cases, except possibly in cerebral arteriosclerosis, not only do the percentage agreements disagree but these percentages themselves estimated by their mean are decidedly low.[5]

Comparison with Dr. Cabot's figures.—How much disagreement might fairly be expected as due to inevitable difficulties of classification? No real answer is possible except on prolonged study both of statistical material and especially of the original clinical material in conference between those who have disagreed; but perhaps some light can be had from comparing our figures with those of Dr. Cabot[6] in respect to the corroboration of general medical diagnosis by autopsy findings. In a list of 28 diagnoses he found a median percentage of "success" of 55% which within the errors of sampling, may be considered to be the same as ours (60 respectively 58%); his upper and lower quartiles were 72.5% and 34% whereas ours are 75% and 45%. On the whole the consistency of the psychiatric diagnosis seems to be at least as good as the "success" of general medical diagnosis. A more satisfactory comparison could perhaps be made if Dr. Cabot's data had been available in a square table like ours showing the actual changes. It may be well to quote from his discussion:

"As one looks into the accompanying chart of diagnoses one naturally asks: Whose success or failure does this represent? Where Smith and Jones have failed could you and I have done better? I doubt it. The study of the details in these cases before and after death convinces me that, for the present and under present limitations of diagnostic method, few of the mistakes tabulated above could have been avoided. The table represents the success and failure ratio of certain methods rather than of certain men. Admitting that the man behind the gun (or the method) makes a vast difference, I do not believe that these figures depend to any considerable degree on the possession or lack of special virtuosity in diagnosis. They mirror the methods of an average up-to-date American hospital." Except as we should substitute *disagreement* for *error* or *failure*, and *agreement* for *success*, we are driven to admit the same conclusion as far as statistical examination can indicate and although further clinical study of the original records should and will be made we can only expect that such study will in the main confirm the conclusion.

Comparison with Lowrey's figures.—The comparison of our figures and Lowrey's for total agreements shows a lessening of agreement and an increase of disagreement. It is worth while to treat his table in detail as ours to examine the agreement in the different diagnoses so far as they correspond to those now used.

TABLE V

Lowrey's Figures

No.	Diagnosis	Agreed	Other B. P. H.	Total B. P. H.	Per Cent Agreement	Other O. S. H.	Total O. S. H.	Per Cent Agreement	Mean	Ours 1925-26 Mean
1.	Dementia praecox	155	20	175	88	20	175	88	88	73
2.	Manic depressive	42	16	58	72	20	62	68	70	69
3.	Alcoholic group	22	7	29	75	8	30	73	74	76
4.	Paranoid condition	3	6	9	33	2	5	60	47	43
7.	Cerebral arteriosclerosis	12	9	21	57	5	17	71	64	61
8+13.	General paralysis and cerebral syphilis (neuro-syphilis)	36	3	39	92	0	36	100	96	90
11.	Mental deficiency	0	0	0	0	2	2	0	0	69
14.	Epileptic psychosis	12	0	12	100	0	12	100	100	88
24+6.	Senile	14	5	19	74	5	19	74	78	60

The agreement is higher than at present in (1) Dementia Praecox (12) Senile, and (8 and 13) General Paralysis and Cerebral Syphilis, presumably significantly so, but in all other cases is about the same. It is seen that most of the increase of disagreement which was shown on the totals must be attributed to the large decrease in agreement (from 88% to 73%) on the large group of Dementia Praecox. It is small wonder that many psychiatrists are asking: What is schizophrenia?

The general percentage distribution of the cases in Lowrey's Table according to diagnosis connot strictly be compared with our distribution because of intercurrent change in classification. For the chief diagnoses it is:

TABLE VI

	Lowrey's: 1916-1917				Ours: 1925-1926			
	(1) BPH Cases	(2) Per Cent BPH	(3) OSH Cases	(4) Per Cent OSH	(5) BPH Cases	(6) Per Cent BPH	(7) OSH Cases	(8) Per Cent OSH
Dementia praecox	183	43.6	183	43.6	323	27.4	358	30.4
Manic-depressive	60	14.2	63	15.0	238	20.2	243	20.6
Alcoholic Group	33	7.8	31	7.3	79	6.7	87	7.4
Paranoid condition	9	2.1	7	1.7	68	5.7	54	4.6
Involution melancholia	–	–	2	.5	31	2.6	19	1.6
Undiagnosed	23	5.4	14	3.3	138	11.7	57	4.8
Cerebral arteriosclerosis	22	5.2	19	4.5	40	3.4	55	4.6
General paralysis *Cerebral syphilis	39	9.3	36	8.5	101	8.6	100	8.5
Mental deficiency	–	–	2	.5	33	2.8	49	4.2
Senile	21	5.0	19	4.5	26	2.2	24	2.0
Epileptic psychosis	12	2.8	12	2.8	6	.5	9	.8
Not insane	9	2.1	16	3.8	6	.5	35	2.9
Others	8	1.9	15	3.6	88	7.4	87	7.4
Total	419	99.4	419	99.6	1,177	99.8	1,177	99.8

Lowrey:—(1) Psychopathic cases, (2) % of such, (3) State Hospital Cases, (4) % of such; Present figures: (5) Cases B. P. H., (6) % of such, (7) Other State Hospitals, (8) % of such.

The percentage of (1) Dementia Praecox has decreased, that of (2) Manic-Depressive has increased during the decade, that of (3) Alcoholic Psychosis has not significantly diminished, that of (4) Paranoid states has increased, (but even if we include these with the Dementia Praecox group the resulting group still has decreased). The percentage undiagnosed at the Psychopathic has increased if the figures are comparable, the senile and epileptics have decreased (probably an executive affair), the not insane have decreased, the mental defectives have increased considerably (perhaps due to greater attention to psychometrics and social analysis of the patients) and the scattered "other" diagnosed have increased.

Distribution of Patients to different hospitals. —To determine whether there may be any systematic differences between the way in which different hospitals classify the same patients could best be carried on by an examination in conference, of the original material (including patients). but some indications that may be worth while can perhaps be obtained by comparing the ways in which the different hospitals have classified the patients sent to them by the Psychopathic. The first step must be to see whether on the basis of the diagnosis at the Psychopathic itself there is similarity in or difference between the samples sent from it to those hospitals for if there are differences in the samples there may well be consequent differences in the subsequent classification. The Table VII gives 1,253 cases transferred to the hospitals during 1925–26 (and in the case of Foxboro 1927). The percentage distributions are not strikingly dissimilar. For those diagnoses with at least thirty cases there has been computed the variance, *i. e.*, the sum of the squares of the deviations from their mean (augmented in the ratio of n/(n-1) or 4/3), the variance npq according to chance, and the Lexian Ratio, which shows how much larger the fluctuations are running than if due to chance. It will be seen that the samples

TABLE VII

Distribution of Patients to the Four State Hospitals

	PSYCHOPATHIC		BOSTON STATE		WESTBOROUGH		WORCESTER		FOXBOROUGH		VARIANCE			
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent	(1)	(2)	(3)	(4)
Dementia praecox	339	27.0	106	22.5	99	30.6	66	33.8	68	25.8	100	30	1.8	15
Manic-depressive	249	19.9	101	21.4	73	22.5	34	17.4	41	15.6	42	22	1.6	11
Alcoholic group	85	6.8	37	7.8	14	4.3	9	4.6	25	9.5	25	8	1.8	30
Paranoid condition	71	5.7	28	5.9	17	5.2	14	7.2	12	4.6	5	8	.8	–
Involutional melancholia	33	2.6	15	3.2	11	3.4	2	1.0	4	1.5	5.7	2.7	1.3	40
Undiagnosed	153	12.2	53	11.2	35	10.8	23	11.8	42	15.9	22	15	1.2	10
Cerebral arteriosclerosis	42	3.3	19	4.0	10	3.1	4	2.2	9	3.4	2.2	4	.7	–
General paralysis	98	7.8	36	7.6	17	5.2	19	9.7	26	9.9	19	11	1.4	14
Psychosis with other brain and nerve disease	37	2.9	19	4.0	10	3.1	1	.5	7	2.7	8.8	2.5	1.9	50
Psychosis with other somatic disease	30	2.3	15	3.2	4	1.2	6	3.4	4	1.5	5	3.2	1.2	26
Mental deficiency	35	2.8	10	2.1	11	3.4	6	3.4	8	3.0	1.5	4.2	.6	–
Senile	27	2.1	10	2.1	9	2.8	2	1.0	6	2.3	–	–	–	–
Cerebral syphilis	10	.8	5	1.0	10	3.1	2	1.0	3	1.1	–	–	–	–
Epileptic psychosis	9	.6	2	0.4	2	.6	2	1.0	2	1.1	–	–	–	–
Not insane	6	.4	6	1.3	–	–	–	–	–	–	–	–	–	1
Psychopathic personality	15	1.2	4	0.8	5	1.5	4	2.2	4	1.5	–	–	–	–
Psychoneurosis	7	.5	3	0.6	3	.9	–	–	1	.3	–	–	–	–
Traumatic psychosis	5	.3	–	–	4	1.2	1	.5	–	–	–	–	–	–
Psychosis due to drugs, etc.	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Brain tumor	2	.1	2	.4	–	–	–	–	–	–	–	–	–	–
Total	1,253	99.4	471	99.5	324	99.8	195	100.7	263	99.7				

The last four columns give (1) the computed standard deviations (square and multiplied by 4), (2) the sampling error (similarly expressed), (3) the Lexian ratio and (4) of the Charlier co-efficient of disturbancy in percentage for diagnoses which had 30 or more instances at the Psychopathic Hospital.

distributed to the different hospitals differ more than they would by chance alone. The last column gives the Charlier coefficient of disturbancy. When it is recalled that the variations from year to year in death rates in tee original registration states from pneumonia show disturbancies of from 6–10%, it is seen that the variation in these samples, as far as the commoner diagnoses are concerned, is running high. Under the executive arrangements at the Boston Psychopathic Hospital there seems to be no specific reason why the samples should be so different; but we have always to bear in mind that real samples ordinarily do exhibit greater variation than the ideal samples we discuss in the theory of chance.

One may compare the samples directly by Pearson's X^2 test where p_1 and p_2

$$X^2 = \frac{N_1 N_2}{10{,}000} S \left\{ \frac{(p_1 - p_2)^2}{n_1 + n_2} \right\}$$

are the percentages, not chances, in the different corresponding diagnoses, n_1 and n_2 are the number of cases, N_1 and N_2 are the total number of cases, and the sign S denoted summation of all diagnoses (we omit 19 because there are no cases). Applied to the distributions of Boston Psychopathic Hospital and the Westborough Hospital, we find $X^2 = 33$ which corresponds to a probability of about .02, *i. e.*, there is only about one chance in fifty that the variations between the two distributions could have arisien by chance alone. Between Worcester and Foxborough we have $X^2 = 18$ corresponding to a probability of .3 which means that those deviations might well have originated by chance. In the same way the value of X^2 for other pairs could be calculated; Westborough—Worcester gives $X^2 = 23.3$ or $P = .15$. There are six possible pairs. Clearly some of them individually could be regarded as arising through sampling errors; others cannot; taken as a whole they cannot and thus the X^2 test confirms the conclusion based on examining the Lexian ratios or coefficients of disturbancy—the real samples do differ among themselves more than can fairly be attributed to chance as is usual. The fact of such differences in the samples distributed by the Psychopathic to the various hospitals must be kept in mind in any discussion of possible differences in classifications at the various hospitals.

Comparison with each of the four hospitals.—The percentage total agreement with each of the four hospitals is:

	Cases	Agreed	Per Cent Agreed
Boston State Hospital	471	255	54.1±2.3
Westborough	324	183	56.4±2.8
Foxoborough	263	173	66.0±2.9
Worcester	195	122	62.5±3.5
	1253	733	

The scattering is clearly running larger than due to chance alone, but the increase is only of about the same relative amount (Lexian ratio=1.7), as was found above for the variation between samples distributed.

Table VIII gives the distribution of the cases by diagnosis at the State Hospitals and may be treated in a manner similar to that in which the table of diagnoses at the Psychopathic was treated. (On account of the higher percentage of "undiagnosed" and lower percentage of "not insane" at the Psychopathic the percentages for the Psychopathic have been modified by neglecting these groups and distributing the rest on the basis of 93% instead of 100%). Now, although as seen previously the distribution of the Boston Psychopathic Hospital diagnoses (except for the two categories rejected for adequate reason) runs very close to the distribution of the other hospitals taken altogether, (indeed the value of X^2 is such as to indicate that the differences might easily have arisen through sampling), yet the distributions to specific diagnoses in the different individual hospitals do obviously vary

TABLE VIII

Percentage of Diagnoses at each of the Four Hospitals

	B. P. H.		TOTAL		BOSTON STATE		WESTBOROUGH		WORCESTER		FOXBOROUGH	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent
Dementia praecox	339	28.7	384	30.6	57	12.1	149	46.0	72	36.9	108	41.0
Manic-depressive	249	21.1	255	20.3	134	28.4	64	19.7	20	10.2	37	14.0
Alcoholic group	85	7.2	94	7.5	36	7.6	23	7.0	9	4.6	26	9.8
Paranoid condition	71	6.0	57	4.5	36	7.6	0	0	12	6.1	9	3.4
Involution melancholia	33	2.8	25	2.0	9	1.9	2	.6	3	1.5	7	2.6
Undiagnosed	153	4.3	55	4.3	24	5.0	5	1.5	28	14.3	1	3.8
Cerebral arteriosclerosis	42	3.5	58	4.6	32	6.7	16	4.9	4	2.0	6	2.2
General paralysis	98	8.3	102	8.1	39	8.2	17	5.2	19	9.7	26	9.8
Psychosis with other brain and nerve disease	37	3.1	20	1.5	8	1.7	4	1.2	1	.5	8	3.0
Psychosis with other somatic disease	30	2.4	25	2.0	16	3.3	2	.6	4	2.0	3	1.1
Mental deficiency	35	3.0	51	4.0	26	5.5	11	3.3	5	2.5	9	3.4
Senile	27	2.2	25	2.0	5	1.0	14	4.3	1	.5	4	1.5
Cerebral syphilis	10	.8	8	.6	2	.4	1	.3	1	.5	4	1.5
Epileptic psychosis	9	.6	12	.9	3	.6	3	.9	3	1.5	3	1.1
Not insane	6	2.9	36	2.9	28	5.9	3	.9	3	1.5	2	.7
Psychopathic personality	15	1.3	23	1.8	3	.6	5	1.5	8	4.0	7	2.6
Psychoneurosis	7	.5	15	1.2	9	1.9	2	.6	1	.5	3	1.1
Traumatic psychosis	5	.3	4	.3	–	–	3	.9	1	.5	–	–
Psychosis due to drugs, etc.	–	–	2	.15	2	.4	–	–	–	–	–	–
Brain tumor	2	.1	2	.15	2	.4	–	–	–	–	–	–
Total	1,253	99.4	1,253	99.2	471	99.2	324	99.2	195	99.3	263	99.1

from one another in a manner far too striking to be attributable to mere chance fluctuations even though we make allowances for the fact that the samples distributed to the hospitals showed moderate variations in excess of those attributable to chance. Thus the Boston State Hospital has 12% of Dementia Praecox whereas Westborough has 46%, a difference of 34% with a mean error of sampling of only 6%; to offset this in part the Boston State Hospital has 7.6% of Paranoid Condition, but Westborough none. The Boston State Hospital has 5% Undiagnosed, Foxborough has less than ½% but Worcester 14%. Worcester has only 10% Manic Depressive, Boston State 28%. Foxborough is low in "Not Insane", Boston State high, whereas Worcester is high in psychopathic personality, Boston State is low—and so on. It may be noted that Westborough, Foxborough and Worcester give percentages (Table VIII) in 1925-26 which are essentially the same as those of 1916-17 (Table VI) whereas the Boston Psychopathic Hospital has cut the percentage of Dementia Praecox about one-third and the Boston State Hospital has cut it about two-thirds.

It seems fair to conclude that there are considerable differences between these hospitals in the way they apply the standard terminology in classifying patients. To undertake any critical studies on a purely statistical basis hardly seems worthwhile; even to examine the percentage agreement or disagreement by individual hospitals relative to the Psychopathic by diagnosis, as was done for the total group, might be illusory because of the small numbers involved. Some such further pursuit of the figures may however be illuminating in connection with reexamination of the original clinical material. Apparently the classification at the Psychopathic Hospital represents a reasonably fair mean with respect to the four State Hospitals here considered.

Summary

1. The percentage of disagreement between the diagnoses at the Psychopathic and at the other State Hospitals is now 42% as compared with 26% ten years ago, or if the undiagnosed be discarded it is now 34% as compared with 21% then.

2. The comparison by diagnosis with Lowrey's figures indicates that much of the increase in disagreement is due to a greater present tendency to disagree in regard to the large group diagnosed Dementia Praecox or Schizophrenia.

3. Except for differences in Undiagnosed and Not Insane, in which a fair comparison cannot be made, the percentages of patients classified by the Psychopathic and other State Hospitals taken as a group under the different diagnoses are practically the same; but the percentages differ from one hospital to another to an extent that seems significant.

4. Those patients classified as Undiagnosed at the Psychopathic are by the other hospitals distributed over the different diagnoses in the same proportions as other patients and conversely the cases recorded as undiagnosed by the State hospitals are taken proportionately from the different diagnoses at the Psychopathic (there being natural exceptions to be made for Unclassified and Not Insane).

5. According to diagnosis, agreement runs from 100% down to 0% with a median of 60%; the distribution of percentages of agreement resembling highly that found by Dr. Cabot for diagnosis in internal medicine.

1. *Southard, E. E.*, and *Stearns, A. W.*, "The Margin of Error in Psychopathic Hospital Diagnoses", Boston Med. and Surgical Journal, vol. 171, No. 24, pp. 895-900, Dec. 10, 1914.

2. *Lowrey. L. G.* An Analysis of the Accuracy of Psychopathic Hospital Diagnoses. Bull. Mass. Comm. for Mental Diseases, vol. 3, No. 4, pp. 67-85, Oct. 1919. "Correlation of Data in Cases Seen at the Psychopathic Department and Foxboro State Hospital", vol. 3, No. 3, pp. 99-110, July, 1919.

3. We refer only to the majority or general run of patients; the Psychopathic Hospital has, and always has had the privilege of keeping for long periods cases of especial professional interest for study or treatment.

4. It is difficult to compare our percentage disagreement or Lowrey's with that of Southard and Stearns because they do not present their total material in quite the same form; but they do give percentages of disagreement as thirty-six, or twenty-five if the unclassified are discarded, compared with ours of forty-two, or thirty-four, and Lowrey's of twenty-six, or twenty-one. If these figures are really comparable, we should infer that Southard and Stearns find figures about half-way between ours and Lowrey's.

5. In parentheses at the bottom of the table are given the percentages of agreement when Dementia Praecox and Paranoid Condition are treated as equivalent diagnoses, and when Manic-Depressive and Involution Melancholia are treated as equivalent. It may be noted that the percentage agreement has thereby been increased slightly as compared with Dementia Praecox and Manic Depressive, largely as compared with Paranoid Condition and Involution Melancholia. It would seem that the increase is sufficient to indicate that there is a real interlocking or interchanging of the terms Dementia Praecox and Paranoid Condition and of the terms Manic Depressive and Involution Melancholia.

6. *Cabot, R. C.* Diagnostic Pitfalls identified during a study of three thousand autopsies. J. Amer. Med. Asso., Dec. 28, 1912.

PARENTAL ATTITUDES AND THEIR RELATION TO NEUROTIC TRAITS

by Olive Cooper, M. D.
Division of Mental Hygiene,
Department of Mental Diseases

Among the greatest obstacles encountered in our efforts at readjustment of problem children are fixed unhealthy or unintelligent attitudes on the part of parents and others responsible for the child's guidance, and an inability to face facts honestly and courageously as they are instead of as they would like to have them.

Rarely, if ever, in these cases do they understand the role that their own attitudes play. This is true not only in the production of a particular problem but also in the furtherance of it. Invariably, we find them with a firmly established and deeply cherished point of view toward the difficulty. It is sometimes one that has been constructed usually in such a way as to relieve them of any blame in the causation of the problem and for which they seek corroboration from the clinic rather than criticism; and above all, never destruction of it. All points coinciding with their premise are readily accepted but those threatening disagreement and conflict or tending to undermine are at once rejected. It not infrequently happens that the clinic services are refused because, "The doctor didn't understand the case." A common retort often heard is, "The doctor doesn't understand John as I do. He only saw him for a few minutes and I have watched him so carefully all his life." This kind of attitude is frequently met with in parents of defective children. Their refusal or inability to face facts squarely often hampers the child and stands in the way of his getting specialized training that might otherwise enable him to become self-supporting and capable of community adjustment; instead, as so often happens, of becomming a dependent defective and community charge when the parents are no longer able to provide for him.

Faulty parental attitudes cannot be entirely accounted for on the basis of limited intelligence, since, some of our most hampering and destructive ones have appeared in our superior and college trained persons; but rather, they are dependent, to a large extent, upon the individual's developmental experiences, many of which have a deep emotional coloring and involve a multiplicity of events each with its own emotional value. We find them in all levels of society—rich, poor, brilliant, and stupid, and there does not seem to be any special form peculiar to any one group.

The popular defense mechanism which manifests itself so often in the form of excuses is, perhaps, one of our most crippling components of an unhealthy attitude. These are the common defense reactions that are used as an effective attempt to give a justifiable explanation for failure but rarely serve to conceal the real, underlying causes. The discouraging factor in the whole process is that it helps the child to delude himself, distorts his perspective, and obviously makes way for the building of a defective personality. The child with a problem is always alert and eager for any excuse provided by the parent with which he may mask the real cause of his failure to the outside world. The excuse may be satisfactory to the parent in that it shields his own self regard and protects him from criticism. For the child's purposes, the same excuse is naturally sufficient as anything which satisfies a parent is certainly substantial enough to present to those outside. An illustration of this is seen in a child with a problem of enuresis. The problem, to start with, is faced by the mother as a reflection on her ability to train the child. She has failed to establish toilet habits in him either through lack of effort or insufficient concentration on the task. Her defense usually is established in the phrase, "My child has weak kidneys, just as mine used to be." The implication is that there is, underlying his problem, an obscure physical factor which cannot be altered by anything she could do and concludes that nothing further can be done but to give the child an opportunity to outgrow it. Then, too, her attitude is definitely colored, unfavorably, by her own early experience with this same habit, a fact which tends to make her unduly sympathic toward her child and his problem, and by reason of this, she unintentionally puts a block in his pathway to improvement. The child reflects this pessimistic attitude which in substance is, "Mother says that it can't be helped, there is nothing I can do about it, so why worry?" Thus, the child is discouraged in the beginning from making the necessary effort for correction and a simple problem is given right of way to develop at the expense of the development of the more constructive elements in his makeup and to the distinct disadvantage of the child in the future. This may, and frequently does, mean a costly price to the child, all because parental self-regard must be protected.

The commonest excuse given by parents for their failure to overcome enuresis in their children is "weak kidneys," a misnomer that is as vague and meaningless to them as it is to physicians but one which they vainly try to substantiate with all kinds of bizarre physical signs which they may have observed in the child. These range from "circles under the eyes" to an absolute incontinence during the day. Here, we have to bear in mind that the picture presented, particularly in respect to the alleged incontinence may be, and usually is, greatly overdrawn, and all for selfish reasons or for the building up of a stronger defense for parental protection. To the contrary, it so happens that the true situation is quite different from that depicted by the parent in his zealousness to prove his premise. The child may have a pigmentation beneath his eyes but which, in itself, does not hold as a symptom of nephritis nor a cause justifying enuresis. There may also be frequent voiding during the day although not as frequent as is made evident by the parent. This, as in the case of the coloring about the eyes, is not an indicator of a renal malfunctioning but rather is evidence of faulty habit formation and insufficient self control. Among those neurotic traits, nurtured by faulty attitudes, enuresis probably ranks highest in order of frequency.

The parent's point of view toward his child's problem is a potent determinent of what the child's attitude will be toward it. The degree of success to be had in any program of treatment not only is controlled by this factor but more than that it is the mould for the child's later reaction patterns and his technique for meeting life's situations. For example, one meets a mother whose child has a habit of biting her finger nails. She talks a great deal about it in the presence of the child and emphasizes, unwittingly, the difficulty encountered in correcting such a habit. She feels qualified to testify to this fact, having had, in her own case, the experience of nail biting for the past twenty years. This is the mother who seeks treatment but resents any criticism or inference that the habit is simply a matter of self-control and firmly refuses to permit the problem to be put on a level of simple faulty habit formation. Rather, she insists that if the problem were remediable, both she and the patient would have succeeded in their "conscientious attempts" and that their failure is due to something too profound and insurmountable for them to cope with. In a similar manner, she falsely assures the child that he has made a satisfying effort to correct the habit and the consequent failure should be of no concern, since "stronger persons than he have failed in such a habit," presenting herself as one of the "stronger persons." All clinic recommendations are spurned because they infringe upon the patient's privileges and are too exacting. White gloves are belittled because "they would make the patient too sensitive" and "he could not bear the criticism of the other children." Any possible therapeutic value of the advice given patient by the physician is destroyed by the mother's supplementing it with various comforting additions. These are intended as aids to the patient in digesting the material "so that his feelings will not be hurt." However, the gist of these pacifiers is that the mother is convinced that the habit cannot be corrected and it, therefore, makes little difference as to what others may think of it. This is the type of parent who pridefully confronts the clinic with its failures to effect a cure and takes it as a tribute to her own power. The supporting thought being, "When I couldn't overcome it, why should anyone else be allowed to succeed in doing so?" One finds, in such a case, an absolute lack of appreciation in a parent regarding the role she plays in the therapy and an absolute failure to understand the omnipotent influence her attitude exerts in the case. The reason for the stand taken by the mother, in this case is quite obtrusive by its conspicuous defense constructed to prevent disclosure of her own lack of control and associated conditions. Correction of her child's habit would serve as a flagrant rebuff to her own inadequacy and her self regard is too important to sacrifice for such an occasion.

Heredity holds a foremost position among the different varieties of defense mechanisms. In a clinic, like the Habit clinic, one meets all forms of "inherited conditions" including food capriciousness, nail biting, and temper tantrums. Heredity provides a ready alibi in many cases for a parent's inability to correct the problem. As a writer once so aptly said, "It is the lazy man's retreat." It excuses the parent in his own eyes (but not in the eyes of others) for defects in his child that might well have been corrected were the time and attention necessary for correction given them. It is easier for him to consider the child as constitutionally unstable or as having "inherited" his problem than to recognize the difficulty as something for which he, himself, is largely responsible. The emphasis that is put upon heredity by many precludes the possibility of correction in numerous problems regardless of their simplicity for the reason that they are accepted as predestined and hence unalterable by any environmental forces. An attitude predominated by heredity is bound to have a dangerous influence upon the child's development.

The following case is presented as one illustrating the dire effect of parental attitudes on the personality development of the child:

Louise, aged 8, had been referred to the Habit Clinic because of a marked change in personality. This was first noticed following a severe burn about the face and neck sustained eighteen months prior to her first clinic visit. According to the history as given by the mother, Louise had become an outstanding personality in the household by reason of her unhappiness characterized by whining, fretfulness, and constant fault-finding. She could not play well with the children, ever tattling about them and was particularly critical of her younger brother. She never failed to create a scene at meal times if the menu was not a palatable one for her and occasionally she vomited following it. The simplest command was sure to be followed by fussing, fretting, and long periods of scolding those about her. She appeared to her mother to be extremely self-conscious of her burn and always tried to conceal it when meeting someone for the first time. She had become distinctly asocial and avoided all outsiders whenever able to do so. This was a trait which caused the mother greater concern than any of the others.

The family background (especially the mother's) and the environment, in this case, are not without significance. The household comprised the father, mother, patient, younger brother, and a maternal grandmother. The father was an intelligent, economically well situated man who had never been interested in children but who tried, as best he could, to assume his paternal repsonsibilities, having been assigned the role with no choice in the matter. In the problem of discipline, he preferred not to take an active part in the administering of punishment but whenever necessary to support the mother in establishing any policy, he would passively enter in. He preferred, however, in his desire to maintain parental harmony and a congenial household, to take the course of least resistance.

The mother, in the case, was an attractive and exceptionally intelligent woman who, like her husband, was not interested in children and had never desired any. To repeat the mother's exact words, "we took her as our punishment." She, herself, had had an unpleasant childhood. She had been adopted by an elderly wealthy couple who had made every endeavor to supply her with the material things of life with the result that there was created in her a love for the aesthetic. However, connections with her own home were never completely severed as she was compelled by her mother to make seasonal visits there with all that they entailed of sordidness and unpleasantness to her. She resented returning to the poverty stricken home during the holiday season as that was the time she would have enjoyed most her foster parents and their surroundings. She further felt unkindly toward her mother for bringing into the world children for whom their financial situation, owing to a chronic illness of the father, would not sufficiently provide.

The youngest member of the family was a three year old boy whom the mother openly proclaimed as her favorite because, as she rationalized it, he was diametrically different from patient, and quite similar to herself in make-up. She had found in him a common bond of understanding that made for a delightful congeniality between them but, on the other hand, a relationship that made her acutely aware of her lack of affection for the patient as it tended to magnify the latter's unprepossessing personality (unprepossessing as she saw it.) To quote the mother, "She is *so* different from me that I cannot understand her and never hope to be able to." It is of interest to note that this boy had temper tantrums which were accepted by his father and grandmother as being quite unmanageable, but by his mother as justified expressions of protest. The mother prided herself on her ability to handle these with ease and considered this as further evidence of the mutual understanding that existed between her son and herself.

The last, but by no means the least important member of the household, was the maternal grandmother. Her position in the group was, in no sense of the word, a mean one, but rather foremost in its source of irritability and constrained family relationships. Both the grandmother and the mother felt the lack of affection which each had for the other and tried, in so far as was possible, to adjust themselves to the circumstances that had made it necessary for them to live together. This situation was brought about by the fact that all maternal relatives resided in Canada where the climate was unsuited to the grandmother's physical condition. The grandmother strongly took the patient's side and all arguments in the family usually were precipitated by some occasion in which she felt the patient had not received justice.

The patient was an unusually attractive child, mature and fully conscious of her ability to manage affairs. Her conversation, as seen in her fairly elaborate expressions of speech, showed evidence of close contact with adults. While she was permitted to lead the conversation with subjects of her own selection, she was affable and cooperative. But when any attempt was made to have her answer questions or to take her away from her own line of thought, she became fretful and questioning. Most of her conversation concerned herself, her playmates, and their activities. In reply to a question about her brother, she assumed an air of intolerance and spoke of him disdainfully, making it to the point that he was too immature and uninteresting to command any of her attention. It was clearly evident that her brother held an important place in her mind, however much she tried to conceal it. She protrayed him as a rather troublesome person in the household and one of whom adults were very intolerant. Just before leaving clinic, she was directed to return the following week whereupon her manner quickly changed from the earlier pleasantness to one of quarrelsomeness and challenging. She threatened not to return and continued berating everyone in undertones. She proceeded to tell the physician just what she thought of the clinic and all associated with it. After she had been given ample opportunity for expression along this line, she stopped quickly and at once resumed her most courteous manner and bade the physician good-bye with a promise to return on the appointed date without showing the slightest objection or resistance. Intellectually, this child was above average.

The family condoled with each other over the child's unhappiness and apparent discontent with life in general and tried, in every way, to compensate for the terrible affliction which they thought had been wrought by the burn and its extensive scar formation. Their method of accomplishing the compensation was by openly pitying her, condoning her disagreeableness toward others, bemoaning her poor lot and by ever bringing into the foreground the fact that her behavior was the inevitable. In their opinion, a child with such a disfigurement could not be but embittered and cynical toward those about her.

A bird's eye view suffices here to enable one to see some of the probable causes that have effected the change in personality. Had some of the same causal factors existed in another situation, even in the absence of a burn or similar accident, it is more than likely that they would have produced a child with a corresponding variety of asocial tendencies as were complained of here.

One of the outstanding features in the case seemed to be a divided household composed of the father, mother and the boy on the one side, with the grandmother and the patient fighting a losing battle on the other side. The patient had been an unwelcome personality in the home and had been more permanently put upon the shelf at the arrival of her younger brother who had, from birth, held the entire interest of the family and also the interest of their friends to whom he was always presented as a refreshing contrast to the patient. This meant exclusion of the latter from the little corner she held, however obscure, to a point which was even more so. Figuratively speaking, she was out of sight from everyone save her grandmother who never for a moment lost sight of her and who was ever ready to champion her in any cause. The patient, as would be expected, was conscious of the competition presented by her brother in his prominent position and also appreciated that she was gradually fading in the background without hope of any means of recognition.

The mother was frank in revealing many of the salient and contributory factors in the case. Her love for the aesthetic side of life made the appearance of the burn extremely repulsive to her, a dislike which she projected on to the child and caused the latter to develop a feeling of self-consciousness and inferiority. Whatever sensitiveness and other feelings the child had concerning her scar were but reflections of the maternal impressions. She explained that neither she nor her husband had included children in their after-marriage plans and the arrival of a daughter brought a great disappointment, not acceptable by either but one from which there seemed to be no way of escape. Both developed a feeling of resentment toward the child which was only neutralized in time by an acquired indifference to her presence.

The patient's unfortunate accident effected them as a sudden and cruel reminder of their lack of normal affection and prolonged ingnoring of her. It stimulated retrospection and focussed their attention on their neglected duty and faulty management which, in turn, gave rise to many compunctions. In an effort to comfort these, they set about to make amends in whatever way seemed most practicable. It was not long before the patient's position was changed from one of relative obscurity to one of unparalleled prominence, a situation which carried with it as many evils, in the effect it was to produce upon the child, as had the original. All attention was directed toward her, all whims were gratified and every benign eccentricity was magnified. Everything was hers for the asking. It was not unusual that the child should seize the opportunity for the foreground that the accident provided. The family pity and solicitude were new experiences from which she readily saw a possible revenue of things, such as attention, freedom, and affection, all of which she had always craved but in the competition with her brother, had never succeeded in realizing.

An attempt was made here to demonstrate that one was not dealing with an acute personality change produced by the burn but rather a change of gradual growth that undoubtedly had its onset early in the life of the child, as the outgrowth of faulty and destructive parental attitudes. Study of the case showed that Louise had always been, more or less, of a problem to her parents, chiefly because she was not wanted. Their refusal to recognize her had necessitated their constructing a defense in the attempt to justify their attitude. This became manifest long before the burn in their rationalizations that the child was different, unusual, not understandable, and hence, not appealing. The burn upon which they placed the blame for the change was but a small part in the gamut of causal factors. It was but an incident offering a convenient evasion of the real issue which was to be found in the parental attitude. The behavior problems here were concordant with the policies adopted in the management of the child. The change was the inevitable and quite to be expected under the circumstances with all things considered.

Therapy consisted largely of reconstructing the family attitude particularly in the case of the mother who was bringing over into her own family the same deleterious mother-child relationship that had existed between her mother and herself. She even had been fairly successful in coloring her husband's attitude toward the child in such a way as to have him see the child in essentially the same light as she saw her.

The course of treatment in the pre-school child can only be accomplished through proper education of parents along the lines of mental hygiene. It should be our first duty, as mental hygienists, to have them understand the importance of attitude both in its relation to constructive and also destructive guidance of the child's personality; to try and have them see facts as they are, meet them squarely, introspect and above all, keep out such reactions as jealousy, selfishness, self-pity, and others that are so often rationalized as "mother love." Every parent should try to obtain insight and overcome some of the unhealthy atittudes of his own personality. In the background of many of their lives may be found an unhappy childhood, the effects of which should not be permitted to reflect in the personality of their offspring. In the great majority of cases, these behavior problems cease to be stumbling blocks when a parent succeeds in establishing a wholesome, unbiassed, unemotional attitude toward them.

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MASSACHUSETTS DEPARTMENT OF MENTAL DISEASES

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GEORGE M. KLINE, M. D.
DOUGLAS A. THOM, M. D.
GEORGE L. WALLACE, M. D.

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CONDITIONS AND EVENTS LEADING TO THE PASSAGE OF THE MASSACHUSETTS LAW COMMONLY CALLED THE BRIGGS LAW*

Providing for an Investigation by the Department of Mental Diseases As to the Mental Condition of Certain Persons Held for Trial, and How it was Finally Adopted.

By L. VERNON BRIGGS, M. D., Boston, Mass.

I have been asked to describe the conditions and events leading up to the passage of the present Massachusetts law requiring an unprejudiced mental examination before trial of certain accused persons, and I am also asked to tell how this law was finally adopted. Before this law was passed the procedure employed in ascertaining the mental responsibility of persons accused of crime was almost inconceivably futile, cruel and wasteful. Hardly a day passed, and certainly never a week without the spectacle in some one of our courts of two or more physicians, possibly graduates of the same medical school, and belonging to the same scientific and medical societies, pitted against each other, testifying to diametrically opposite opinions as to the mental condition and responsibility of the person in question.

The press seized upon this condition of affairs to subject the psychiatric specialist to ridicule. A jury, often with some members of low mental caliber, sat as judges to decide complicated medical questions, frequently involving the life of a human being. Often the conflicting testimony of two eminent pyschiatrists so confused the jury that they threw out all the medical evidence. Seldom did they get an unbiased scientific opinion, for no sooner had one side employed an expert in mental disease than the other invariably engaged another alienist, of whom there were some to be found who could be employed to offset their rivals' testimony.

So demoralizing had the situation become that large corporations found it possible to retain the services of prominent Massachusetts alienists year after year to testify where accidents and other conditions had resulted in nervous and mental disease involving them in litigation. These alienists of course brought out only such facts as would help their employers. Among these men were college professors, and some heads of department in general hospitals. What finally seemed to cap the climax was the spectacle in a Massachusetts court of an alienist, at one time president of one of our medical societies, appearing for the plaintiff in a case and later in the same court appearing against this plaintiff and for the defendant.

For years it had been the desire of the medical men in our State to remove from their profession the stigma occasioned by the acts of these few men—for my criticism of expert testimony does not apply to the great majority of physicians who refuse to be employed in any case where they were not permitted to express their honest scientific opinion. As expert for many years on important criminal cases in our courts, I had seen the expense to which the State was being put for the employment of alienists, as well as the expense to the family of the accused, which frequently they could ill afford, and in murder trials the expense of the whole trial often amounted to as much as $20,000 to $30,000, which I believed could be saved if a proper law was enacted.

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*Presented before the Conference on Crime Reduction, held under the auspices of the National Crime Commission. Washington, D. C. November 2-3, 1927.

Then, to me as to many others, the humanitarian aspect was really the most important factor, especially when the accused was mentally distraught and was obliged to listen to the testimony of the experts concerning delusions, hallucinations, and so on, day after day, before it was decided by a jury of laymen whether he was mentally ill or not. On the one hand the contentious method which has been used in the past in Massachusetts and is today being utilized in other jurisdictions opened the door to the possible execution of mentally ill persons, and on the other hand this same practice made it equally easy for persons acquitted because of "insanity" to be shortly thereafter returned to society, although dangerous.

After many consultations, extending over some years, with members of both the medical and the legal professions, I conceived the idea of a routine mental examination before trial, by an impartial commission or board, for persons accused of serious crimes. In 1920 I drafted such a law in my book, "The Manner of Man That Kills," I later took copies of this draft in the form of a bill which I had already had introduced in the Legislature to a man who then had more to do with the delinquents in our courts than any other physician. He pronounced it unconstitutional and impractical, and virtually declined to appear before a legislative committee in favor of it. I next took it to two of the judges of our courts, who enthusiastically endorsed it, and to the then president of the Massachusetts Bar Association, who said he saw nothing unconstitutional or impractical in it; in fact both he and the judges said they thought it did not go far enough.

At the hearing of this bill the judges, the President of the Bar Association, the Commissioner of Probation of Massachusetts and other men of equal experience spoke in favor of its passage. It was opposed by several of the district attorneys some of the clerks of court and others who thought the rights of the individual were being infringed upon. A representative of the Department of Mental Diseases appeared at the hearing and said he saw no objection to it, and that the Department stood ready to perform its part of the duties which the law involved. During the various stages it passed through in the Legislature the bill had "rough sledding". Certain clerks of court, district attorneys, and societies who thought the rights of the accused were being infringed on lobbied against it, but the proponents were so strong that it finally passed in its original form, excepting that the appropriation for carrying out its provisions, which had been incorporated in the original bill, was cut out in its final draft. If I had not consented to this, the bill would not have passed at that session and no opportunity would have been given to prove its practicability.

The bill as finally passed in 1921 was as follows:

Chapter 415.—An Act Providing for an Investigation by the Department of Mental Diseases as to the Mental Conditions of Certain Persons held for Trial.

Chapter one hundred and twenty-three of the General Laws is hereby amended by inserting after section one hundred the following new section-:—*Section* 100A. Whenever a person is indicted by a grand jury for a capital offense or whenever a person who is known to have been indicted for any other offense more than once or to have been previously convicted of a felony, is indicted by a grand jury or bound over for trial in the superior court, the clerk of the court in which the indictment is returned, or the clerk of the district court or the trial justice, as the case may be, shall give notice to the department of mental diseases, and the department shall cause such person to be examined with a view to determine his mental condition and the existence of any mental disease or defect which would affect his criminal responsibility. The department shall file a report of its investigation with the clerk of the court in which the trial is to be held, and the report shall be accessible to the court, the district attorney and to the attorney for the accused, and shall be admissable as evidence of the mental condition of the accused. (*Approved May* 20, 1921.)

Immediately after the passage of this law I invited to my house a number of alienists who had been prominent in our court trials and whose testimony had always been scientific and respected, and asked how many of them would be willing during the following year to examine, without fees and at their own expense, cases reported under this law. Dr. Kline, the able Commissioner of our Department of Mental Diseases, was also present, and he put the case very clearly to these men, many of whom had been earning part of their livelihood doing the very work of which this law would virtually deprive them. Every man present agreed to do his part, and during the following two years—for I could get no appropriation the next year—the Department of Mental Diseases had no difficiulty in securing the psychiatrists needed for the examination of all the cases reported.

In 1923 we realized that the clerks of the courts were not reporting to the department all the cases which came under the law. At that time I considered an amendment with a penalty for not reporting these cases but Dr. Kline felt that the time was not ripe; but we did get enacted an amendment[1] in which, as will be seen, was added a provision for the payment of physicians who made the examinations on the same basis as was paid physicians for certifying the usual cases for commitment to mental hospitals. We both tried for at least a $15 or $20 fee but this the Legislature would no permit.

In 1925 a further perfecting amendment was passed[2], making neglect of the clerk of the court or the trial justice in reporting these cases punishable by a fine of not more than $50. But we soon realized that this amendment did not accomplish its purpose—the reporting of all cases that came under the new law. The clerks of the court excused themselves on the ground that they did not know the previous records of the accused. To remedy this possible defect, it was decided, after Dr. Kline had called in conference the Probation Commissioner and others, to put the primary responsibility of reporting cases under this law upon the Probation Officers, as the Probation Department had centralized criminal records of court cases in Massachusetts, and a provision to this effect was incorporated in an amendment passed this year, as Chapter 59, Acts of 1927.

Although to my knowledge no attorney on either side had ever finally refused to allow examinations by the Department as provided by this law, and although the constitutionality of the law had never been questioned in any trial during the six years that it had been in force, each time we brought it up before the judiciary committee, composed of lawyers or ex-judges in the Legislature, they advised that the phrase "The report of the Department of Mental Diseases shall be admissible as evidence of the mental condition of the accused" should be taken out, as they thought the law, which they considered an important one, might be endangered by that clause. We have been unable up to this time to see how we could take this phrase out without rendering the report ineffective. With the help of the Counsel to the Senate, Mr. Dorman, we drafted a provision that the Department should file a report of its investigation with the clerk of the court, as before, but that instead of its being admissible as evidence, the report should "be accessible to the court, the district attorney and to the attorney for the accused,"[3] believing that either the judge or the counsel would move to have the accused committed instead of being tried, if mental disease was reported; this is the way it has worked out.

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[1] Chapter [illegible], Acts of 1923.

[2] Chapter 169, Acts of 1925.

It is interesting to note that this law, which by so many was thought at first to be unconstitutional and impractical, has not proved so It has corrected unfortunate conditions which existed in Massachusetts prior to its passage, and which now exist, I am sorry to say, in many States.

The reputation for unbiased and scientific administration of this law held by the Department of Mental Diseases in Massachusetts and the realization by the courts and juries that psychiatrists when not partisans can help them makes for the continued success of the law. The virtual elimination of contending medical men in criminal trials has raised the medical profession in the opinion of the public and of the press. Instead of the common spectacle of members of the medical profession pitted against each other, we have since the law was passed in 1921 an average of less than one case a year in which psychiatrists have testified in opposition in the same criminal case. Thousands and thousands of dollars have been saved, not only to the State but to the defendants, and our mentally sick offenders, instead of being executed or punished by imprisonment and perhaps turned loose in a few years in an irresponsible condition to commit further crimes, thus becoming recidivists, are placed in hospitals where they remain, perhaps for life, unless they fully recover, and both they and the public are protected.

In conclusion it will not be amiss to mention that this law has attracted serious attention outside of Massachusetts. In New York and Pennsylvania outstanding professional groups and associations are considering this law. It is also being considered in Belgium. Finally as a sign of the times it may be mentioned that in the latest case book on criminal law, written by Professor F. B. Sayre in 1927 and adopted at the Harvard Law School, this law is quoted in full, together with favorable comments.

THE PRACTICAL OPERATION OF THE MASSACHUSETTS LAW PROVIDING FOR THE PSYCHIATRIC EXAMINATION OF CERTAIN PERSONS ACCUSED OF CRIME

BY WINFRED OVERHOLSER, AB.., M.B., M.D.

Director, Division for the Examination of Prisoners, Massachusetts Department of Mental Diseases.

Assistant Professor of Psychiatry, Boston University School of Medicine.

It is inconceivable that in the present state of jurisprudence anyone should seriously desire to prosecute for crime any individual suffering from mental disease. The day of vindictive justice is passing. This fact is due in part to the spread of humanitarianism, but also in large measure to the growing realization that vindictive justice not only is no justice at all, but that it accomplishes nothing of a permanent value to the common good. Even before the emergence from the state of vindictiveness was complete, the principle was well established that a person developing mental illness, ("insanity"), even though he was sane at the time he committed an offense, should not be put upon trial during such mental illness. Such a principle was expressed by Sir Matthew Hale in 1678[1] and is succinctly stated by Blackstone as follows:

> "If a man in his sound memory commits a capital offense, and before arraignment for it he becomes mad, he ought not to be arraigned for it,

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[3] Chapter 169, Acts of 1925.

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> because he is not able to plead to it with that advice and caution that he ought. And if, after he was pleaded, the prisoner becomes mad, he shall not be tried; for how can he make his defense?"2

The intent of the common law to be fair to the defendant in this matter is clear and has been enacted into statute in many jurisdictions. In most instances, it is clearly stated that when the issue of sanity is raised, either before or during a trial, it must first be determined that the defendant is sane, that is, in suitable mental condition to defend himself, before the trial on the merits of the case can proceed. Attempts to disregard this provision have on occasion resulted in the reversal of the verdict.3

The method of determining the matter of the defendant's sanity is sometimes left to the jury in a special proceeding. In this instance, we see a group of laymen passing upon a complicated question of psychiatry, sometimes with dubious results. In other instances, we find that a commission made up in part of physicians who are often not trained in psychiatry, is called upon to decide this delicate question. Again, in some jurisdictions, we find the matter left entirely to the discretion of the court, who sometimes calls in experts to advise and assist him in reaching a conclusion. The process in any event is cumbersome and expensive, and savors too much of a trial on the merits. The significant and important feature of any of these systems, whether or not they provide for the assistance by trained psychiatrists, is that the issue of sanity in the first place is raised by someone other than a psychiatrist. This non-medical person may be, and not infrequently is, the attorney for the defense. Sometimes he is the keeper of the jail, an officer of the court, a friend of the defendant, or the judge himself. The diagnosis of a mental disorder (presumed or real), in other words, is made by one unfamiliar with medical or psychological matters. What is the natural result? Some obvious cases in which the conduct is markedly disordered will be recognized correctly for what they are. Other cases, however, of serious mental disorder may show very little disturbance of conduct and are more than likely to elude observation. Another group of debatable size is that of the cases in which no one seriously believes that mental disorder is present, but in which an injection of the question as to the defendant's sanity appears to be advantageous strategy for the defense. That the issue has been raised in some instances without justification in fact is not open to dispute, and so much attention has been attracted by the cases in which this was done, that in certain jurisdictions there has been legislation designed to limit the use of this procedure; in some non-legal quarters we have even heard a suggestion that the plea of insanity as a defense to crime be abolished. The facts raise a question as to what defect exists in our system of settling this vital issue.

Certain cases of mental disorder, as already suggested, are so manifest that they are readily recognized by a layman, and about these there is likely to be no dispute. If the psychiatrist who is called in says that the patient is suffering from mental disease, the laymen who have already come in contact with the case agree very readily. Unfortunately, not all cases of what we call mental disease are quite so obvious. There are a considerable number of what we may term borderline cases in which there is room for an honest difference of opinion among competent psychiatrists who have all the facts in the case before them. Under the present methods of procedure in certain jurisdictions, not all the facts are made available to the psychiatrists for both sides, with the result that the experts retained are familiar only with the facts presented to them by their side. That there is a certain tendency to bias, even if wholly unconscious and honest, can hardly be denied; the expert who is retained is likely, no matter how much he attempts to overcome it, to tend to disregard the features of the case which are unfavorable to his side. Add to this, the rules of procedure under which the expert instead of being allowed to explain what he means must answer "Yes" or "No" to certain questions. Even though he may be in substantial agreement with the expert o the opposite side, a skillful attorney may frame his questions in such a way that the limited answers allowed may make the two men appear to be diametrically opposed. Too often the whole affair seems to degenerate into a partisan squabble, each side endeavoring to favor itself and neither looking solely for the truth. The machinery of the law is at fault in large measure, rather than are the individuals who are called upon to testify. In some instances, the courts have availed themselves of their right to call in experts to advise them as friends of the court. In other instances, the courts in perplexity have discarded the testimony of both sides and have resorted to that well-known substitute for trained knowledge, "common sense."[4] In any event, let it be borne in mind that this complicated procedure starts from the alleged recognition by some untrained non-medical person of that sometimes very subtle thing which we call a mental disorder. If the defendant is of sound mind, a great injustice is done to society by unduly prolonging the trial and encumbering the proceedings. If the individual is of unsound mind, he is subjected to a prolonged court procedure to which it is wholly unfair to subject him. If he is suffering from mental disease of such a nature as not to present itself to the attention of these laymen, the still greater injustice is done of submitting a mentally incompetent person to trial. The very least that we can ask of a system that shall remedy these defects is that the selection of cases to be examined as to sanity shall be made by a trained psychiatrist. Better than this is some method which shall subject offenders to a routine psychiatric examination regardless of whether or not mental disease is suspected. So far, only one State, Massachusetts, has taken the step of providing such prescribed examination of certain classes of offenders. The details of the statutory provisions[5] have already been described to you by Dr. Briggs, the author, and we may, therefore, proceed to a consideration of a practical working of the law.

Upon receipt by the Department of Mental Diseases of notice that a defendant is held for trial who is examinable under the provisions of the statute, two reputable psychiatrists are assigned to make the mental examination. The services of investigators and psychologists connected with the Department are available to them, and an opinion expressed which takes into consideration all the facts in the case. If the case is such as to require repeated examinations and prolonged investigation, the District Attorney is usually willing to postpone the trial if need be in order that the report may be satisfactorily completed. The prisoner is interviewed in private, in an informal way which enables the examiners to search out the true facts as to his mental condition in an infinitely more satisfactory manner than by a court proceeding subject to the rules of evidence. The report is not limited to answering set questions or to giving an opinion based upon the recognized legal "tests" of insanity. That these so-called "tests" are wholly inadequate has long been recognized, not only by psychiatrists but by a few courts of appellate jurisdiction.[6] The learned judge who presided at the trial of Guiteau well remarked in his charge:

> "The outgivings of the judicial mind on this subject have not always been entirely satisfactory or in harmony with the conclusions of medical science. Courts have in former times undertaken to lay down a law of insanity without reference to and in ignorance of the medical aspects of the subject when it could only be properly dealt with through a concurrent and harmonious treatment by the two sciences of law and medicine."[7]

It will be recalled that the statute calls upon the examiners not only to determine "the existence of any mental disease or defect which would affect his (the prisoner's) criminal responsibility," but also to "determine his mental condition,"—two related but distinct tasks which are not always recognized as other than identical. By presenting clear, comprehensive and non-technical reports, the psychiatrists have had an opportunity to call to the attention of prosecutors and judges the fact that "responsibility" and "sanity" are far more nebulous and indefinable concepts than would generally be gathered from legal treatises.

The report is sent to the Department of Mental Diseases and forwarded by them to the court in which the defendant is to be tried,—the court, the prosecutor, and the defense counsel being given access to the report. If the findings contained therein are desired in evidence, the examiners may be placed upon the stand to testify. Either side may, of course, call in other experts, but this is rarely done since the unbiased, neutral character of the Department's examiners is well recognized by all parties to the case.

Data concerning the cases reported to the Department of Mental Diseases by clerks of court since the passage of the original law, (Chapter 415, Acts of 1921), in 1921 up to October 15, 1927, have been compiled, and are briefly presented herewith. In all, 505 persons accused of felony have been reported, of whom 123 have not been examined. It should be explained that of the latter number no less than 25 were reported during the past year, but were found not to come within the provisions of the act, because they had either had no previous record or were convicted only of a misdemeanor previously, or were indicted for homicide of less than capital grade. The most significant reason for failure to examine was inability to locate because the accused had been released on bail, a reason which obtained in nearly one-half of the cases missed. In some instances, the bondsman has arranged for the examination to be made, but these cases have been exceptional. Since the defects of the bail system will probably be discussed at other sessions of this Conference, further comment would be out of place here.8 Another reason for failure has been the imposition of sentence before examination could be made. This reason existed in about one-fifth of the cases not seen.

An obstacle which has been encountered in only the rarest instances has been the opposition of the accused or his counsel to the examination. The cooperation of counsel, in fact, has been one of the outstanding features of the operation of the law, despite the gloomy predictions of those who claimed that the constitutional rights of the accused were being infringed9 and that the prisoner would not submit to the examination. In some instances, indeed, in which the prisoner was disinclined to interview the psychiatrists, his lawyer has instructed him to submit to the examination. It is significant, too, to note that the refusals occurred in the earlier days of the Act, and that with increase of familiarity with the provisions and purposes of the statute has come an increasing degree of cooperation on the part of defense attorneys. The fact that such cooperation exists goes to indicate that the law is being fairly administered, and that its operation is certainly not grossly inimical to the defendant. That the law, on the other hand, does not operate to give an undue advantage to the defendant or to the prosecution will be shown below.

Against the 382 persons examined there stood 201 indictments for first degree murder and six for second degree murder or manslaughter (these six were examined before it was ruled that the law was not applicable to persons accused of homicide of less gravity than first degree murder.) Against the other 175 persons there were 240 indictments as follows: 22 for sex offenses, 73 for larcency, 70 for burglary, 29 for robbery, 14 for assault with intent to rob or kill, and 32 for various other offenses. Against the 123 persons not examined for any of the various reasons previously detailed there were 16 indictments for homicide, 6 for assault with intent to rob or kill, 8 for sex offenses, 43 for larceny, 32 for burglary, 10 for robbery, and 11 for other offenses,—a total of 131.*

*Some of these cases were bound over by the lower court for action by the grand jury, and therefore, were not technically indicted at the time of examination. Since the court had found "probable cause" and since the statute operates alike upon both classes, except in the case of a capital offense, no distinction has been made in presenting the figures for felonies other than murder in the first degree

Coming to the mental condition of the 382 persons examined, we find that 31 were reported as "insane", that is, suffering from a definite major psychosis, 34 as mentally defective or as "defective delinquents," and 12 as psychopathic personalities. Eight more were committed, on the recommendation of the examiners, to a mental hospital for observation and further study, their mental condition being such that a definite opinion could not be advanced with the facilities and time available at the jail. In all, then, 85 prisoners, or 22 per cent of the total number examined, were found to be either clearly or suggestively abnormal mentally. If we assume that the same percentage holds for the group not examined, then about 27 out of the 123 reported but not examined probably had a definitely abnormal mental condition.**

Of the prisoners reported insane, in only one instance was the report of the psychiatrists disregarded. In that case the judge, despite the evidence given by the examiners, found the defendant sane, and sentenced him to State Prison for manslaughter. The psychiatrists' report was justified within a few months, however, when the prisoner manifested his former symptoms, threatening his fellow-prisoners, and accusing them of conspiring to injure him. Then, but not until then, was he committed to the State hospital for the criminal insane. In the other instances the court promptly committed the prisoner directly to a State hospital, the limitations on release being such under the Massachusetts Laws that society is amply protected.10 In most cases and by far preferably the defendant has been committed without the formality of a trial, the criminal charge being filed. Certain district attorneys have preferred to close the case where the offense was homicide by obtaining a verdict of "not guilty by reason of insanity." This had necessitated only the briefest and most formal of proceedings, however, these rarely lasting as long as an hour. By agreement of counsel the offense is shown and evidence of the defendant's mental condition is introduced. An instructed verdict is then promptly returned, calling by statute for commitment to a State hospital for life.11 By either method, the subjection of a mentally ill defendant to a prolonged court proceeding with the attendant expense, is avoided, and the matter is finally settled in an orderly, dignified and efficient way. Subsequent observation in the institutions has borne out the correctness of the original diagnosis in practically all instances.

Of the prisoners examined, only 34, or about 9 percent., have been reported to be mental defectives or "defective delinquents." The latter term combines legal and psychiatric concepts, and to the extent of being a hybrid is undesirable. Massachusetts and New York are so far the only States to recognize this group as one calling for a specialized form of treatment.12 Under the Massachusetts Law, a mentally defective person convicted of an offense not punishable by death or by life imprisonment may be committed for an indeterminate period to a special institution for this type of offender, provided his mental defect is certified by two qualified physicians and that he has a record of a previous conviction in three years.13 Inmates of penal institutions and of schools for the feeble-minded may also be committed if they become serious disciplinary problems while in their respective institutions.14

Of the prisoners examined under the statute and reported to be mentally defective, 8 have been wisely committed for an indeterminate period to this special institution. In a considerable number of cases, however, the report of mental defectiveness has been ignored, and the defendant disposed of in the traditional

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**Two of these, for instance, sentenced before examination to serve one year in the House of Correction for breaking and entering, were men with considerable records who upon examination after sentence were found to have mental disease.

manner, even though with this group an early repetition of the offense is more than likely. One mental defective, for example, who had been before the courts for thirteen years, had served a sentence in the Reformatory, one in the House of Correction, and one in State Prison (from which institution he had escaped, later being returned to serve an additional sentence) was ordered to serve nine months in the House of Correction for larceny. Another defective of low grade, who had been in frequent conflict with the law, was awarded ten months in the House of Correction for rape. Such dispositions hardly serve to protect society, although the legal machinery is available to care properly for this small but troublesome group.

It is of interest to note that the diagnosis of "psychopathic personality" was offered in only twelve out of 382 cases, since there are those who protest that psychiatrists, if allowed free rein, would label all criminals "insane" or at least "psychopathic." The fact that these independent, trained psychiatrists diagnosed so few as mentally abnormal or "psychopathic" is a sufficient refutation of this ill-informed claim. That there is a group of psychopathic offenders cannot be denied, however, nor that this group is such, by nature of its mental makeup, that it requires special treatment. Ideally, a special institution for this class should be provided, 15 for the psychopathic delinquents presents problems which cause him to mix poorly with more normal offenders, and to interfere with the discipline and morale of the ordinary correctional institution. Until such an institution is developed, society's only assurance of protection from this group lies in their prolonged, or in many instances permanent segregation in the now-existing prisons. Such segregation, however, can be imposed only in accordance with set penalties which vary with the supposed "seriousness" of the offense, and it is only those psychopaths who have already committed some alarming crime who can be adequately handled. Much fault lies in the attempt on the part of the Legislature to prescribe in advance definite and relatively brief sentences, much as these may be disguised as "indeterminate." Realization is growing that the mere name of the offense signifies but little of the social menace presented by the offender, and that more individualization of treatment is urgently needed. As a result of the traditional system of definite sentences, however, the judge even when advised as to the mental makeup of the offender is often hampered in the disposition which he can make of the case.

Having now considered some of the details of operation, we may well ask, what is accomplished by the law? In the first place, provision is made for a *routine* examination of certain offenders, the statute operating on all in certain specified classes regardless of non-medical opinions as to sanity or of decisions as to the strategy of a sanity issue. Assurance is possible that no defendant is placed on trial for a capital offense who is not mentally fit to stand such trial and an attempt is made to ascertain whether the defendant who has come into serious conflict with the law more than once finds himself in such conflict primarily or largely on account of his mental state.

Secondly, the examination is made by a *neutral* agency which is not only not retained by either prosecution or defense but which is not even an agency of the court. The examination is made by trained psychiatrists who are free of any preformed assumptions or bias, and who are seeking only to find the truth regardless of which side it may favor.

As a result of the neutral and impartial status of the examiners, occasion to employ the services of partisan experts in criminal cases has practically entirely ceased to exist. The clashes of such experts which are all too familiar in some jurisdictions are now virtually unknown in Massachusetts, almost entirely on account of this beneficient provision of the law. If by no other accomplismhent than the rehabilitation of expert testimony the law has amply justified its existence.

Those defendants suffering from mental disease, and at least some of the mental defectives who present a social menace, are properly disposed of by commitment to special institutions, there to remain until such time as their mental condition renders them fit to resume life in the community. Society is thus protected better from them than it would be by a definite term, at the end of which the prisoner would be released without regard to his mental state.

Again, as before suggested, the courts and prosecutors have to a measurable degree had clearly demonstrated to them the aid which non-partisan psychiatrists can render to them in their difficult task.

That the functioning of the law is not perfect will readily be admitted. One of the most serious defects as the Act stood until 1927 was that clerks of court, not having as one of their duties that of knowing the defendant's previous record, failed to report many cases other than capital. During the first five years of the operation of the Act, for instance, 179 of the 357 cases reported were capital,—very nearly fifty percent. It was, of course, obvious that many of the other felony cases were not being reported. The 1927 amendment already described by Dr. Briggs calling upon the probaton officers to furnish to clerks the necessary information as to previous records, 16 went into effect as recently as July 1, 1927. During the year ending October 15, 1927, 138 cases had been reported, of which only 28 (20% were capital. The rate of reporting increased as well from an annual average of 71 to 138—almost 100 percent. The annual rate of examinations made has likewise increased from 59 to 87. The next year should witness a still further increase in the number reported and in the proportion of other than capital felonies. It seems safe to say that one major defect in the operation of the law has already been remedied.

The statute does not apply to murder in the second degree or to manslaughter. Some doubt may properly exist as to whether the latter offense should be included, but it would seem that all persons charged with murder regardless of degree might well be made examinable. The matter of mental condition would appear to be worth settling on a charge involving a mandatory life sentence.

One difficulty in the practical working of the law is that a number of defendants are missed by reason of being out on bail and not available. The right to bail in these cases cannot be denied, but more cooperation might well be given by the district attorney, court, or defense counsel. The statute seems to direct the examination to be made, so that a question might be raised as to the right of a court to proceed to trial until the statute had been carried out. In any event, an indication from the court that the defendant was expected to present himself for examination would probably have the desired result.

The matter of sentencing a defendant before the report of the examiners is made is still another obstacle to the efficient operation of this law, and will probably continue to be so until the courts come to a greater realization of the possible value of these reports. In some cases, even, the clerk has not sent the defendant's name to the Department of Mental Diseases until after sentence has been passed. From the results of subsequent examinations made of some of these cases, it has been clear that a different disposition would have been made had the court been aware of the facts as to the defendant's mentality. It is only fair to say that but a small proportion of the cases not examined have been missed on account of early sentence.

The criticism is sometimes offered that the making of these examinations may result in delaying trial of the case. There is in fact very little basis for this objection. Many of the cases coming under this law are first given a preliminary hearing in a district court, which finds "probable cause." The statute calls upon the clerk of the district court to report the case to the Department of Mental Diseases; if the clerk does his clear duty, the results of the examination will be available soon after, and sometimes even before, the return of the indictment. Of cases originating by indictment, the probation officer of the Superior Court has early notice of the indictment, and (if provided with the clerical assistance he should have) can notify the Department promptly. In capital cases, sufficient time is usually taken with preparation of the case to permit an unhurried examination. In actual practice, the examinations have not operated to delay the prosecution of any considerable number of cases.

Again, it has been suggested that such a procedure as has been out-lined constitutes a confusion of the functions of the District Attorney and the court. Such objection is predicated upon the assumption that the District Attorney's duty is solely to presecute the offender, leaving the issue of sanity to the defense to raise and leaving to the Court all matters relating to disposition and treatment. Whatever the proper conception of his duties may be, the fact is that there is in this country hardly a public officer who may and does exercise a wider and more unqualified discretion than does the District Attorney. Shall we, then, deprive him of the benefit of a scientific, non-partisan procedure which may aid him materially in the exercise of such discretion? Obviously, to do so would be unprogressive. Furthermore, no disposition by way of commitment to a hospital or institution for defective delinquents can be made except by a finding and order of the court.

Others may object that the Massachusetts law attempts to usurp to the psychiatrists the prerogatives of the District Attorney by dictating the action to be taken in a given cause. Such is far from the case. The report is not in any way binding upon the District Attorney, and there is no reason why the latter cannot call in his own experts to advise him whether he should accept the report. In all the cases within my knowledge where this procedure has been followed, the Department's report has been corroborated. It is not the usual practice by any means to incur this extra expense of substantiating the neutral expert's opinion,—most of the prosecutors being glad to abide by the original report. In the event that a prosecutor should decide to ignore a report of mental disease, for instance, and to proceed to trial, the defense could introduce the oral evidence of the examiners, including evidence as to the circumstances under which they were requested to make the examination. Such proceedings, undesirable and in Massachusetts unlikely though they be, would on account of the neutral status of these examiners, still be far superior to the partisan disputes prevalent in most juridsictions.

A somewhat more cogent argument is adduced by those who, although well aware of the value of mental examinations of offenders, take the position that the law in question does not include a sufficiently large group of delinquents. Why, they say, stop with alleged felons who have committed felony before? Are not some first-offense felons possibly deranged, and are not many of them in any event serious problems to society? Again, since many felons start their careers as misdemeanants, why wait until they commit a felony before ascertaining whether their mentality is such as to call for aggregation? And finally, what basis in logic or practice for distinction between felony and misdemeanor is there, in any event? Such questions are entirely pertinent, and have a sound basis. There is little or nothing in the name of the offense which indicated the "formidability" of the offender, and the distinction between felony and misdemeanor is purely a legal one, based on the type and severity of punishment which may be imposed. From the social point of view, which is more serious, assaulting a police officer or giving a challenge to a duel? In Massachusetts, the former is a misdemeanor, the latter is a felony. The principles underlying the questions of our hypothetical critic have been recognized by several courts, as for instance the Recorder's Court of Detroit, in the establishment of psychopathic laboratories whose function it is to advise on cases which seem to present mental problems. To draw an artificial line as to the supposed gravity of the offense means that some defendants will not be examined who should be. It will be remembered, however, that this law was passed more or less experimentally and that so far as legal classifications are valid, was intended to apply to the presumably most serious offenders. As it continues to prove more and more conclusively its value, it is not improbable that its sphere of operation will be widened. For the present, it is certainly a start in the right direction.

The other group of critics, although admitting the existence of mental disease and defect among offenders, profess to believe that these cases are detected well enough by present methods, and that in any case if some are put through the legal mill they are detected in the correctional institutions and disposed of there. One finds it hard to convince oneself that a system as haphazard as the prevailing one, depending largely upon the chance detection by non-medical persons of symptoms which may be suggestive of mental disease, can function efficiently as a sieve to prevent the passage through the usual channels of persons unfit mentally to be tried or at least in such condition as to call for special treatment. Or, to take the other part of the argument, let us grant that in some penal institutions, as for instance in New York, Illinois and Massachusetts,18 there are extensive provisions for the psychiatric examinations of prisoners after they have been sentenced and committed to correctional institutions. Is it economical to put the public to the expense of a trial, only to have it determined, after the process has been completed, that the individual was unfit and should have been short-routed to another institution? Aside from the expense and the confusion resulting at the prison, is it fair to the defendant to have subjected him to these proceedings? Again, had the facts been known to the court, could not a socially wiser disposition have been made of a mentally defective offender?19

Some of the more cautious may object to the Massachusetts statute on the basis of expense. Such a criticism cannot well be adduced. The general administration of the law is carried on by the already existing machinery of the Department of Mental Diseases. The fee allowed for these examinations is four dollars for each of the two examiners, plus a small mileage allowance. The fees for the 382 cases examined, therefore, have totaled less than $3056.20 This sum, compared with the cost of a single murder trial or even with some of the fees allowed to Commissions in other States in connection with criminal cases, pales into insignificance. In one case alone, in which mental disease, unsuspected even by the defense counsel, but in which such disease as shown by the neutral psychiatrist's report, unquestionably existed to a marked degree for several years, a large fraction of this sum was certainly saved to the public by the avoidance of a prolonged trial.

Such, then, in some detail, are the facts concerning the practical operations of the Massachusetts Statute, with a statement of the law and also of its merits.

The day of a routine treatment of offenders, of a blind following by courts of the penological doctrines of Beccaria, is passing. Were this not the case, the present session of this conference, devoted to a consideration of psychiatry as an aid to the law, would not have been possible.21 Judges are growing in a realization of the fact that the defendants coming before them for disposition differ each from the other in background, and in mental makeup. Within the limitations imposed upon them by the Constitution, by law, and by tradition, they are more and more showing a readiness to be enlightened and to learn how they may the better conform the treatment to the individual's needs, and thereby best protect society. It is to be hoped that the Massachusetts procedure already described will be adopted by other States and also eventually extended in scope. By removing expert testimony from the sphere of partisanship, it is but the fore-runner of a period of a more enlightened exercise of judicial discretion wherein the courts, society and the offender will profit by the services of trained social investigators and psychiatrists.

REFERENCES.

1. Hale, "History of the Pleas of the Crown," Vol. 1, pp. 34. 35, (1678) ed. Wilson, pub. Dublin, 1778.
2. Blackstone, "Commentaries on the Laws of England." Bk. 1V, p. 24, (1765), ed. Cooley, pub. Chicago, 1899.
3. For example, see State v. Ossweiler, 111 Kansas 358, (1922). "When the showing was presented, it was the court's duty to find out if the defendant was in fit mental condition to be tried, whether counsel for either side made application for the 'inquiry' or not." (The verdict of the lower court reversed and the case remanded.) See also Signs v. State, 250 Pac. Rep. 939 (Oklahoma 1926);—State v. Schrader, 238 Pac. 617 (Washington, 1925). State v. Church, 199 Mo. 605 (1906). As a curious reversal of the usual procedure, see California, Acts of 1927, Ch. 677.
4. For an interesting expression of this naive attitude, of Comm. v. Devereaux, 153 N. E. 881, at 882 (Mass., 1926).
5. For the statute in its present form see Acts of 1927, Ch. 59.
6. See Parsons v. State, 81 Alabama 577, State v. Pike, 49 New Hampshire, 399.
7. Guiteau's Case, 10 Fed. Rep. 161, at 166-7.
8. For an exhaustive study of the law, including a discussion of this phase, see Sheldon Glueck, L. L. M. "Psychiatric Examination of Persons Accused of Crime." 36 Yale Law Journal, pp. 632–648 (March, 1927). Reprinted in "Mental Hygiene," vol. 11, no. 2, pp. 287–305. See also, by the same author, "Mental Disorder and the Criminal Law", pub. Boston 1925, a comprehensive treatise on the general subject.
9. For cases favoring the right to require such examinations, see People v. Sliney, 137 N. Y. 570. People v. Furlong, 187 N. Y. 198.
10. General Laws, Ch. 123, Secs. 100–105.
    Upon recovering his sanity the prisoner is reconveyed to the custody from which he was removed, and there held under the original process.
11. General Laws, Chapter 123, Sec. 101.
    In other than homicide cases the court may commit the defendant after such verdict "under such limitations as it deems proper." General Laws, Ch. 278, Sec. 13.
12. Pennsylvania passed a defective delinquent law in 1927, but has so far not appropriated money for the institution authorized by the law. See Chapter 281, Acts of 1927. (Pa.)
13. The requirement of a previous conviction has since been abolished. See Chapter 333, Acts of 1928.
14. For the provisions of law relating to the commitment and discharge of defective delinquents, see General Laws, Chapter 123, Secs. 113–124 as amended by Ch. 270, Acts of 1921 and Ch. 333, Acts of 1928.
15. Such an institution was recommended as long ago as 1918 by Dr. Bernard Glueck, formerly the psychiatrist at Sing Sing Prison. See his "Concerning Prisoners," Mental Hygiene, Vol. 2, p. 177.
16. The obtaining of this information is a duty of the probation officers in all cases where the offence charged is punishable by imprisonment for more than one year. See Acts of 1926, Ch. 320, Section 2.
17. The propriety of arguing an expert's neutral character as giving weight to his credibility has been upheld in a recent Kansas decision.—See Meek v. Wheeler, Kelly v. Hagny Ins. Co., 251 Pac, Rep. 184 (1926.) For Massachusetts procedure as to expert testimony, see Comm. vs. Russ, 232 Mass. 58, (1919).
18. Massachusetts is, in fact, the only State conducting such examinations of convicted prisoners in the county jails. See Ch. 309, Acts of 1924.

19. In commenting upon this waste of time and expense, Dr. R. F. C. Kieb, formerly Superintendent of Matteawan State Hospital and recently appointed Commissioner of Correction of the State of New York, said in his annual report for 1919, "The original offenses were simply a man festation of mental disease and the most casual examination before arraignment would have obviated the necessity of sentence and subsequent transfer. It is regrettable that no provision has ever been made for the psychiatric examination of prisoners produced before our Magistrates' Courts in the metropolitan district and in the larger upstate cities."
20. The payment of this fee was not authorized until two years after the passage of the original law. See Ch. 331, Acts of 1923.
21. As significant of this new attitude on the part of the legal profession is the fact that the case-book now prescribed in the course in Criminal Law at the Harvard Law School devoted little space to this Massachusetts Law and favorable comment thereon. See F. B. Sayre, "Cases on Crim. Law," pp. 510-11; pub. Rochester, N. Y., 1927.

THE TREND IN LEGAL FORMS USED IN ADMITTING PATIENTS TO THE DANVERS STATE HOSPITAL:

Resume of 6,749 *Discharges Over the Ten Year Period,* 1917–1926.

Neil A. Dayton, M.D., Assistant to the Commissioner,
and
Helen H. Dolan, S.B., Assistant in Research.
Massachusetts Department of Mental Diseases.

During the year 1927 the Massachusetts State Department of Mental Diseases undertook a survey of the 6,749 discharges at the Danvers State Hospital covering a ten-year period (1917–1926). This material was collected in connection with a survey of all patients in institutions on September 30, 1926. Its purpose was to obtain pertinent facts which would assist in the elaboration of building plans for the new Metropolitan Hospital now under construction. Although data was secured giving a very adequate history of each patient, ranging from the type of legal commitment on which he entered the institution to the cause and form of his discharge, the material is too abundant to incorporate at length into any one article. For that reason the subject of this paper concerns one factor only, the various forms of admission which were used to legalize the hospital residence of these discharged cases.

Types of Admissions

Before entering into a discussion of the data on hand, it may be well to identify the various types of admission in use throughout the Massachusetts State Hospital system. These range in length from the Emergency form, (Section 78) Chapter 123 General Laws, covering a three-day period, to the regular commitment (Section 51) which may extend over a period of years. This latter type of commitment requires certification by two qualified physicians as to the insanity of the patient and requires also the signature of a judge of the district or probate court before the legal regular commitment can be made. To be discharged from a Section 51 paper, unless the discharge is by death or by transfer, the sanction of the Superintendent must be given and the patient must have proved himself sufficiently recovered to again take his place in the community.

Perhaps the most commonly used shorter type of admission is the Section 79 paper which requires no court action and holds the individual for a period not to

Note—Massachusetts Department of Mental Diseases. Statistical Research Project No. 2. Article 1. Subsequent to July 1, 1928 this project has been subsidized by a grant from the Laura Spellman Rockerfeller Fund.

exceed ten days. During this time he is observed, an attempt being made to determine the seriousness of his mental disorder and whether or not further treatment is necessary.

Another short form is the Observation Commitment (Sec. 77) which detains the patient for a period of thirty-five days. At the end of this period the Superintendent notifies the judge as to the patient's condition and the patient is then either discharged or he is regularly committed for an indefinite period (R. C. 77). During this entire procedure the patient remains in the institution, being held on a new paper as the time limit expires on each previous form of admission.

There is also a voluntary admission (Section 86) by which a person may make written application for treatment, providing that he is mentally competent to do so. If at any time during his hospital residence he decides to leave the institution he is required to signify his intention in writing and cannot be detained for more than three days thereafter.

Combination of Types of Admission

The various forms of admission may be, and very frequently are used in combination through the change of legal status procedure. Perhaps the most frequent combination is that of Section 79 with Section 51—the temporary care admission and the regular commitment. During the temporary care period, while the patient is under supervision at the hospital, sufficient time is allowed for physicians to determine the nature of his psychosis and whether or not he shall have further hospital treatment. In the latter event additional legal papers are secured, making permanent residence mandatory. Thus, a change of legal status is effected and the patient is transferred from a temporary care to a regular commitment, without having left the hospital.

Another combination that is frequently used is the Observation Section 77 and Regular Commitment Section 77.

As a matter of fact, practically all the types of admission may be used in combination with one another. If the person enters an institution on a regular court commitment (Section 51) however, this is final and usually precludes any further change of legal status.

In addition to the above, the following are a few of the types of admission which are used together although they have not occured often enough in our ten-year study to be considered in detail: Voluntary 86 with Regular Commitment 51; Temporary Care 79, Voluntary 86, and Regular Commitment 51; Temporary Care 79, Emergency 78 and Regular Commitment 51; Temporary Care 79, Observation 77 and Voluntary 86.

Frequency of Types Used at Danvers

Table 1 outlines the frequency of types of admission involved in the 6,749 discharges. By far the greater proportion of these entered on regular commitment, Section 51 papers (3.955 of 59.1%). There has been a tendency over the ten-year period for this type of court commitment to decline, however. As shown in Table 1, the numbers decreased from a total of 558 regular commitments in the 1917 discharges to 304 in the 1926 discharges.

The second highest proportion of discharges entered Danvers on temporary care papers, (1,678 or 24.8%) and were later transferred to regular commitments, that is, temporary care, Section 79 and regular commitment, Section 51. These forms, when used in combination, show a slight increase from 144 in 1917 to 202 in 1926.

Although only 312 (4.6%) of all discharges entered the institution on temporary care, Section 79 papers, this type of admission stands third in the order of frequency. Its increase has been steady over the ten-year period as Table 1 demonstrates. Of the 1917 discharges thirteen patients entered Danvers on temporary care papers, but by 1926 this number had increased to 67.

Admissions on Section 86, Voluntary papers are fourth in order of frequency, (162 or 2.4%). It is interesting to note the rapidity with which this form has declined in use between 1917 and 1926. Of the total number of discharges from Danvers in 1917 and 1918, 29 and 40 respectively came as voluntary patients. Of the total discharges in 1926, (674) only 1 patient entered on voluntary papers.

Both the Observation 77 alone and the combination of Observation with regular commitment Section 77 have increased in use over the ten-year period, as shown in Columns 5 and 6 of Table 1. The increase in both has been gradual but steady. Observation 77 alone rose from but one admission of this type in 1917 to 29 in 1926. Observation 77 and R. C. 77 showed an increase from 2 to 36 during the 10 years.

Graph A. shows the trend in the use of these various types of admission arranged according to five-year moving averages. The gradual decrease in the use of the regular commitment, Section 51 is demonstrated here. It is possible that the Observation 77 admission (thirty-five day paper) is superseding this form, for during the ten-year period admissions of this type increased tremendously. Admissions for temporary care (Section 79) likewise showed a rapid increase.

The fact that the use of these two forms (Sections 77 and 79) has become more frequent over the ten-year period, is no indication that admissions in general are showing more than a slight increase however. Many admissions which were formerly under Section 51 have very likely become absorbed in these shorter forms which suffice when it is found unnecessary to detain the patient in the hospital after a short period of observation. That is, those types of admission which have decreased in use, as shown in Graph A, are counterbalanced by those which have increased in use during the 10-year period. The use of regular commitment, Section 51, and voluntary, Secction 86 has decreased over the ten-year period, but this decrease has been more than balanced by increases in temporary care Section 79, Observation, Section 77, and the combinations of temporary care Section 79 with regular commitment Section 51, and observation Section 77 with regular commitment 77. Inasmuch as the number of admissions for each year to Danvers has shown only a slight increase during the ten-year interval, the increase in certain of the forms used does not indicate any marked increase in the number of admissions to the institution.

Summary

Regular commitment, Section 51 predominates over all other types in the frequency of its use as a legal form of admission (59.1%). Next in order of frequency come the combinations of Temporary Care—Section 79 with Regular commitment—Section 51 (24.8%); Temporary Care—Section 79 (4.6%); Voluntary—Section 86 (2.4%); Observation—Section 77 (2.2%) and the combination of Observation with Regular Commitment—Section 77 (2.0%).

It must be remembered that we are dealing with discharges and not admissions. Some of the admission dates extend back over many years. We have found, however, that approximately 75% of the patients remained at the Danvers State Hospital less than two years. Thus, the types of admissions on these discharges do not vary greatly from the types of commitment for admissions covering the same period of years.

Although over the ten-year period the regular commitment and voluntary admissions have decreased, it is likely that the great increase of short term admissions, Temporary Care Section 79 and Observation, Section 77 has balanced the totals.

The short forms of admission which hold a patient but a few days, were primarily created for use in cases of an emergency when court action would be too long in process. There seems to be an increased tendency to use these shorter forms in admitting patients even when the emergencies for which they are created do not exist.

PERCENT DISTRIBUTION OF THE MOST COMMON LEGAL FORMS OF ADMISSION*

Arranged According to Order of Section Numbers Used.

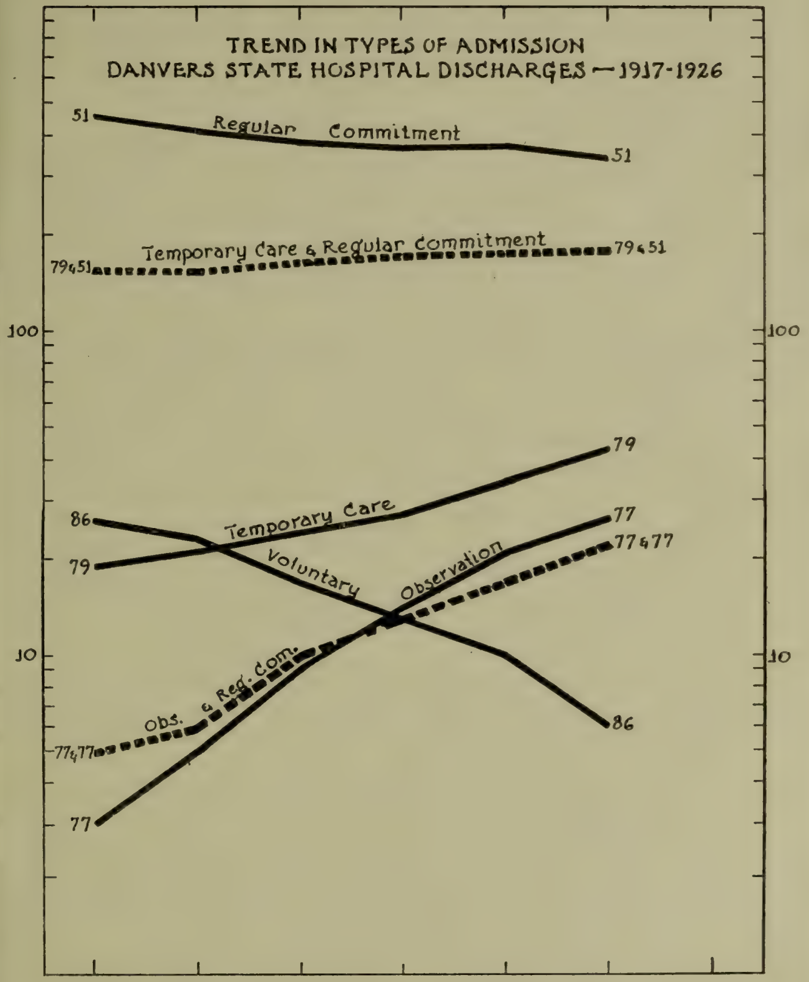
Danvers State Hospital Discharges.

1917—1926

	Section 51 Regular Commitment		Sections 79 and 51 Temporary Care and Regular Commitment		Section 79 Temporary Care		Section 86 Voluntary		Section 77 Observation		Sections 77 and 77 Observation and Regular Commitment		Totals All Forms
Year	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.
1917	558	70.7	144	18.2	13	1.6	29	3.7	1	.12	2	.25	789
1918	444	67.2	121	18.3	10	1.5	40	6.	2	.34	1	.15	660
1919	467	64.5	159	21.8	25	3.4	25	3.4	2	.27	1	.13	723
1920	345	59.4	167	28.7	18	3.1	18	3.1	8	1.3	6	1.0	581
1921	456	62.0	184	24.9	29	3.9	20	2.7	6	.81	15	2.03	738
1922	352	62.0	143	25.1	26	4.6	12	2.1	11	1.9	7	1.2	568
1923	317	52.0	181	29.8	26	4.3	14	2.3	21	3.4	22	3.6	607
1924	384	55.0	191	27.4	39	5.6	3	.43	27	3.8	17	2.4	696
1925	368	51.5	186	26.0	59	8.3	1	.14	43	6.0	28	3.9	713
1926	304	45.0	202	29.9	67	9.9	1	.14	29	4.3	37	5.4	674
Totals	3,995	59.1	1,678	24.8	312	4.6	163	2.4	150	2.2	136	2.0	6,749

*Only the five most common forms of admission are shown in this table. The others have been omitted because of their comparative lack of importance.

GRAPH A



TREND IN TYPES OF ADMISSION
DANVERS STATE HOSPITAL DISCHARGES — 1917-1926

SPRINGFIELD CHILD GUIDANCE CLINIC.

BY MORGAN B. HODSKINS, M.D.
Superintendent Monson State Hospital.

During the winters of 1922–23 and 1923–24 The Connecticut Vally Committee for Mental Hygiene, established under the Massachusetts Society for Mental Hygiene in May, 1922, sponsered two series of lectures on mental hygiene at which there was considerable interest shown, and an increasing number of Springfield people and social workers applied to the committee for advice as to the place they might seek aid in solving their difficulties. At that time New York or Boston really offered the nearest places for clinical psychiatric service, naturally too remote for many, so that the committee felt that there seemed to be sufficient public demand to consider starting some form of service here.

The type of organization was carefully investigated by a sub-committee on which were social workers experienced in psychiatric social work. After conference with New York psychiatrists the committee decided that the plan of starting in a small way, developing normally, and proving the worth of the service was preferable in Springfield to inaugurating the clinic in a large, expensive and spectacular way such as the National Committee for Mental Hygiene was doing so successfully in larger cities.

Then arose the question of personnel and funds. We were extremely fortunate in having in Massachusetts in the State Department of Mental Diseases a Division of Mental Hygiene, found in only a few states, and performing a unique service in conducting a few Habit Clinics. Dr. Douglas A. Thom, head of the Division, was very cooperative in helping us to organize our work and sent a psychiatrist one day a week, and a social worker for three days a week. Later he sent a psychologist for a few days. In turn we were to provide railroad expenses and lodging when the workers were here overnight. Application was made to the Community Chest for a small sum, which was granted under the Children's Aid Association, since it was the policy of the Chest at that time to carry on so far as possible new ventures under an existing organization. The remainder of the expenses was met by the Connecticut Valley Committee and private subscription.

Since it was felt that the clinic was to serve all relief and educational organizations, it should not be directly associated with one, and therefore did not meet under the auspices of the Children's Aid Association but used a vacant room in the Community Building and rooms kindly offered by the Visiting Nurse Association.

In the Fall of 1925, Dr. Thom's department, together with all others in the State, suffered a considerable budget reduction. Since his work had not attained permanent official recognition because of its recent inception but was still demonstrating its worth, it was necessary to show an impressive statistical result. Springfield's clinic took the time and money for one demonstration which could be divided into two or three clinics nearer headquarters. Therefore, to Dr. Thom's great regret, it became necessary for him to withdraw his workers from Springfield. He was most generous in giving his time in planning a constructive program, and he arranged to have the State give Springfield her proportionate amount of assistance in the services of a State psychiatrist, Dr. Morgan B. Hodskins.

The year's experiment demonstrated several things. Among them: (1) that the clinic was filling a real need in the community because of the increased interest and application. (2) That the increase in patients necessitated the services of a full time social worker and a part time psychologist. (3) That the clinic which served all agencies should either be independent or be joined with an agency which was a service organization to all agencies, such as the Hospital.

We were then faced with the three problems of fund, location of the clinic and personnel, which were interrelated very closely, of course.

A budget was prepared and after consideration by the advisory committee a sub-committee worked out with the Community Chest and the Woman's Club a division of funds as follows: The Woman's Club assumed responsibility for the salary of a psychiatric social worker for an experimental period of three years, and the Community Chest assumed that part of the budget which included office and incidental expenses and psychological assistance. Then, since the policy remained the same in the Community Chest regarding the placement of the clinic under some existing Chest agency, it was decided and voted by the trustees of both the Springfield Hospital and the Community Chest to make the clinic a part of the Springfield Hospital. This seemed feasible since (1) mental health is part of the general health program, and (2) the Hospital is an agency generally acceptable to the public and other agencies.

After the inclusion of this work in the Community Chest and Women's Club programs, the clinic was moved to the hospital and a temporary social worker served until a psychiatric social worker, properly trained for this position, could be obtained. Because of the scarcity of psychiatric social workers and the increasing demand for these specially trained people and the higher salaries paid throughout the United States, this proved a serious problem with considerable delay. However, in May, 1926 we were most fortunate in securing Miss Virginia Higgins, a graduate of the Mental Hygiene Department of the New York School of Social Work with two years' experience in the Essex County Juvenile Clinic in Newark, New Jersey and the clinic definitely started on its program of service.

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GEORGE M. KLINE, M. D.
DOUGLAS A. THOM, M. D.
GEORGE L. WALLACE, M. D.

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DOMESTIC CONFLICT AND ITS EFFECT ON THE CHILDREN

By Dorothy E. Hall
Mental Hygiene Supervisor, Infant Welfare Society of Chicago.

I. Introduction: Source of Material, Description of Material, Purpose.

II. Comparative Study: Charts Showing Physical Manifestations, Personality Traits, Asocial Conduct; Explanation of Charts, Interpretation of Material Charted.

III. Illustrative Cases: Case I, Dick; Case II, Elmer; Case III, Ruth; Case IV, Doris and John.

IV. Conclusion.

Based on the cases of 100 preschool children (seen at the Habit Clinics),[1] this article is an attempt at a comparative study of their problems and personality traits in relation to the harmony or disharmony of their personal environments. To select these cases for study, the records of 1000 children seen in the clinics since 1922 were read to determine the family relationships existing in the homes. From these were chosen the 50 cases in which discord was most outstanding, where domestic strife, quarreling, nagging and complaining colored the picture of the home set-up to an evident degree; and the fifty cases in which harmony seemed most complete, where general agreement existed among the adults and a tolerant understanding of each other's difficulties and differences. In every instance the home situation has had a complete social investigation, the child has visited clinic at least once, and been examined by the psychologist and the psychiatrist. The records used are drawn from several different clinics in Boston and surrounding towns so there are various nationalities, and various economic and social levels represented. The children studied have chronological ages between 2 and 6, and none of them were considered mentally defective. Perhaps Table 1 will indicate more clearly the general composition of the material used.

TABLE I

Table Showing Composition According to Sex, Age, Intelligence Quotient, and Time Carried by the Clinic, of 100 Cases Studied with Reference to Home Conditions.

Cases	Sex		Age				Intelligence Quotient				Time Carried			
	M.	F.	2–3	3–4	4–5	5–6	80–90	90–110	110–140	140	Under 6 mo.	6–12 mo.	1–2 yr.	Over 2 yr.
50 With friction	27	23	12	15	12	11	11	24	15	0	15	18	10	7
50 Without friction	20	30	14	23	4	9	5	18	23	4	22	17	7	4

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[1] This study was made at the Habit Clinics, Boston, Mass., 1924—1925.

TABLE II

Table Showing Incidents of Certain Causal or Contributing Factors in Fifty Families Where Friction Exists.

CAUSAL OR CONTRIBUTING FACTOR	Number
Economic inefficiency	28
Educational deficiencies	23
Interfering relatives	19
Legal differences (desertion, divorce, etc.)	18
Vices and bad habits	16
Physical disease or defect	16
Marked difference in temperment	14
Neurotic traits	13
Difference in race or nationality	11
Mental disease	5
Difference in age	4

In the 50 cases of discordant homes it was impossible to trace the exact causes of friction, but it may be interesting to note the incidence of certain possible causes, or at least aggravating factors, listed in Table II. As might be expected, economic inefficiency heads the list and is an important factor in over one-half the group. No one of these factors can be considered the sole cause of the discord, in fact in most cases several of them are coexistent. As it is impossible to trace the discord back to the exact seed from which it sprang in the home relations, so it may be impossible to follow its effect through to the exact fruit in the character and behavior of the children; but, as the preceding difficulties indicate in a general way the types of situations which are back of the strife in these families, so a comparison of the problems appearing in these children with those appearing in children from congenial homes may yield some light on the influence that constant exposure to conflict may have on the personality growth of the children. It is a comparatively simple matter to demonstrate the direct effect of such manifestations of adult disagreement as contradictory discipline on the character of a child at an age when all of his environment is distracting and when all influences should tend toward more complete integration of his faculties[2]; and we have in 22 of these 50 unharmonious families the frank admission that there is a division of authority which subjects the child to conflicting requirements and makes his conduct a bone of contention in the household, either between parents themselves or between parents and some relative. However, unfortunate as an argument of any sort may be, an open difference may occur in a well adjusted family and pass without leaving unpleasantness. It is a thing that can be met on its own level, while the more subtle and pervading attitude of bitter antagonism between adults may permeate the home atmosphere and condition the child's mental growth in ways unrecognized and unimagined by the parents who often feel—that, in domestic strife, the only damage done the child is neglect or temporary suffering, if it is deprived of a mother's physical care, or the bread winning capacity of a father. But the damage is more extensive and may permanently destroy the child's mental health. No amount of 'patching it up' or 'returning to live together for the sake of the child' can restore the child if there is an undercurrent of hostility, suspicion and dislike between the parents. For little children are not so much influenced by words and actions of adults as by attitudes."[3] While the first few years of life are generally admitted to be the most hopeful for training in physical matters such as regular eating, sleeping and toilet habits, and while it is generally known that children imitate not only the words and actions but the mental attitudes of adults, few parents realize how early a child senses the feelings of those around him and how completely he makes them a part of himself even before he can express them. Take for a simple example a six months' old baby being fed beef juice for the first time by his mother who dislikes it to the point of nausea and gives it to him with a doubtful air, hardly expecting that he will eat anything so distasteful. The baby promptly spits it out and is con-

[2] Burnham, The Normal Mind, pp 206—7.

[3] Van Waters, Youth in Conflict, p 72.

soled but urged on to take the "nasty stuff." At this point someone who likes beef juice and can undertake the task of feeding it as though it were a pleasant affair all around succeeds in administering the cupful and leaves the baby thinking he wants more. Because the fruits of very early episodes in a child's life often do not show until so much later it is difficult for parents to act on the realization that the period of the child's life before it is old enough even to go to kindergarten is in all ways the most important in its life in the dominating effect it has on the major traits of character of later years. The child is impressed by everything, and particularly by the moods and manners of the personal environment, impressed in ways and to a degree hitherto unrecognized. . . .[4] And so, while it is not possible to say what may be the outcome in each individual case, where the child has passed his most plastic period in an atmosphere charged with misunderstanding and dissatisfaction, it is interesting and perhaps enlightening to note the number and types of problems and the frequency with which they occur in this group as compared with the group from the security of harmonious homes.[5]

TABLE III

Table Showing Types and Number of Problems and Number of Children Affected in 100 Cases of Preschool Children Studied in Relation to Their Home Conditions.

Problems	Number of Children		Number of Problems	
	50 with friction	50 without	50 with friction	50 without
PHYSICAL MANIFESTATIONS	38	47	75	80
Disturbances of sleep	11	5	11	5
Dreams	1	1	1	1
Restlessness	10	4	10	4
Elimination	13	16	15	16
Urination	12	16	12	16
Soiling	2	0	2	0
Drooling	1	0	1	0
Feeding Difficulties	21	25	25	35
Perverted tastes	0	1	0	1
Vomiting or regurgitation	3	9	3	9
Refusal of food	4	12	4	12
Demands to be fed	4	4	4	4
Finicky regarding food	14	9	14	9
Abnormal sex reactions	9	4	9	4
Masturbation	6	4	6	4
Unusual curiosity	3	0	3	0
Unclassified				
Thumbsucking	5	3	5	3
Nail-biting	1	4	1	4
Tics	0	2	0	2
Speech defect	5	7	5	7
Hyperactivity	4	4	4	4
PERSONALITY TRAITS	46	24	164	59
Temper outbursts	29	19	29	19
Demand for attention	15	5	15	5
Domineering	15	4	15	4
Stubbornness	21	6	21	6
Selfishness	14	3	14	3
Pugnacity	12	1	12	1
Jealousy	10	6	10	6
Shyness	8	3	8	3
Negativism	8	2	8	2
Self-assertiveness	8	0	8	0
Fearfulness	5	3	5	3
Unusual attachments	4	3	4	3
Cruelty	3	1	3	1
Lack of confidence	2	1	2	1
Irritable and whiney	10	2	10	2
ASOCIAL CONDUCT	9	3	13	3
Destructiveness	5	3	5	3
Lying	2	0	2	0
Stealing	2	0	2	0
Truancy from home and school	2	0	2	0
Assaults (fighting, scratching, etc.)	2	0	2	0

The problems which these children present have been classified under three main divisions: physical manifestations, personality traits, and asocial conduct.

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4 Lay, The Child's Unconscious Mind, p 173.

5 See Table III.

These classifications are entirely according to expression irrespective of what may be the underlying or causal factors. It is a difficult matter to draw a line dividing physical manifestations from personality traits for they are interwoven at innumerable points, but in a general way the symptoms listed under the first classification have to do in their expression with the physical or organic life of the individual while those listed under the second classification are more closely related to the emotional life of the individual. Asocial conduct is also classified according to its expression, and is taken here to mean any behavior which does in the present or may in the future concern the individual in his ability to adjust to the community, rather than to the family group. The content of the first group is explained by its own subheadings showing definitely the symptom included under the classification.

However, the second group is necessarily less concrete, for of course these traits, which in some instances would be considered perfectly desirable reactions, are considered undesirable and so problems only when they appear exaggerated in degree or objectionable in kind to those with whom the child comes in contact. And while we may speak of each of them as a single emotion, "it does not exist in isolation, although at times its force and urge may give it temporary dominance in thought and expression."[6] So in these characteristics listed we cannot point to a pure unmixed emotional reaction, but must take into consideration that each one is probably tinged with others. However, for this study, since "the activity which has grown out of the emotions indicates some of each, but especially the dominant one"[7] and since, at present, there is no other objective way of recognizing emotions, the reactions observed in these cases have been interpreted according to their external manifestations. It may seem in some instances that the differentiation between terms is so slight as to necessitate duplication, but each has its shade of meaning. For instance, take stubbornness and negativism. Stubbornness here is used in the sense of being unreasonably unyielding to persuasion or argument, while negativism goes a step further and indicates not only refusal of assent but a definite attempt to do the opposite of the thing requested.

The third classification, asocial conduct, may seem rather severe for children so young but special care was taken in checking these reactions to ascertain that the child had understood that his act was not acceptable. For instance, under destructiveness no act motivated by curiosity, that is, pulling articles apart in an effort to investigate, were taken; and no misdeed was placed under the classification, stealing, unless it was known that the child appropriated property with the knowledge that his act would meet with disapproval because the article taken belonged to someone else. Truancy and assaults seem self-explanatory. This last group might well fit under physical manifestations except that it con-

TABLE IV

Table Showing the Number and percent of Children Affected by Each Type of Problem in 100 Cases of Preschool Children Studied in Relation to Their Home Conditions.

Problems	Children			
	With Friction		Without Friction	
	Number	Percent	Number	Percent
Physical Manifestations	38	76	47	94
Personality Traits	46	92	24	48
Asocial Conduct	9	18	3	6

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[6] Wile, The Challenge of Childhood, p 157.

[7] Wile, The Challenge of Childhood, p 157.

cerns the child not only in his individual reactions as to feeding difficulties, disturbances of sleep, and the like; but it affects his relations with other people and brings him into conflict with social regulations, making these matters more vital to his entire social adjustment.

In comparing these three main groups of problems it is difficult to evaluate their seriousness as a handicap to the child, viewing them, as we must, only as they appear on the surface; for physical manifestations may be based on emotional disturbances and so be much more far reaching than they seem, while some personality twists may be normal phases of the child's development as he reaches the individualizing stage[8] but which have not been recognized as such and so have caused undue concern. Even though we find a physical manifestation to be in some cases a reflection of an emotional conflict, it is a much more direct and crude way of meeting a situation than the exaggeration of some fundamental characteristic to an undesirable degree; and, while physical manifestations may cause considerable inconvenience and anxiety on the part of parents, they concern the child in fewer of the ramifications of his life and they yield more readily to treatment than personality disorders. And so, taking these two considerations as criteria by which to weigh these problems, we may well count the personality difficulties as likely to be far more of a burden in later years and to affect the individual in far more of his adjustments than the physical traits in themselves could possibly do.

TABLE V

Table Showing Comparison of Number of Children from Fifty Families with Friction and Fifty Families without having only One Type of Problem.

Type of Problems	Number of Children	
	With Friction	Without Friction
Physical Manifestations	4	27
Personality Traits	9	3
Asocial Conduct	0	0

For this reason it seems significant that, in comparing the two groups of cases according to the sort of problems found in each, in the first 50 cases, those from discordant homes, 46 or 92% of the children presented the more serious type of problem while in the other group only 24, or 48%, showed personality problems. At the same time the less persistent physical problems were in reverse order being present in 94% of the children from harmonious homes and in 76% of the others. Table V indicates even more clearly that the type of problem in the child from harmonious home surroundings tends to be less serious, for 27 of the 50 in this class, or over one-half, showed only physical manifestations while there were but 4, or about one-seventh as many among children from the discordant homes showed physical manifestations alone. In addition to the fact that almost twice as many children in the discordant group as in the harmonious group showed personality kinks, they also showed a greater number of personality difficulties per child—in the first group 46 children had 164 personality problems or 3.56 per child while in the second group 24 children had 59 or 2.45 per child. It is interesting in glancing through the list of personality problems to note that the group from discordant homes shows a higher proportion of every one, and a markedly higher proportion, of those characteristics which might well be considered the most likely to be found exaggerated in an atmosphere of friction—pugnacity 12 to 1, self-assertiveness 8 to 1, and irritableness and whining 5 to 1.

As for asocial conduct, it was found only in those children who had also undesirable personality traits and occurred more frequently in the unhappy homes, being in a ratio of 3 to 1.

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[8] Kirkpatrick, The Individual in the Making, p 59.

In totalling all of the problems, (physical manifestations, exaggerated personality traits, and asocial conduct) which have seemed important enough to be brought to the attention of a psychiatrist, the preponderance of problems seems to rest heavily on the group from unhappy homes. In the children of the 50 harmonious families there were 142 problems in all or 2.48 per child and in the children from unharmonious homes there were 252 problems in all or 5.04 per child.

Although it is in the personality or behavior of a child that we expect to see most clearly portrayed the effect of his environment and training (since personality is "the individual's characteristic reactions to social stimuli and the quality of his adaption to the social features of environment",[10] and is "to a large extent the outcome of what he learns after he is born and only to a small degree the result of inheritance")[11] it is natural that the difficulties in social reactions should show a close relation to the conflict in parental attitudes; but it is rather surprising that the age at which the problems occur and the intelligence rating of the child should show a similar relation to the home situation. Table I shows some interesting variations between the two groups in these lines. The 100 children when classified according to age groups show a distinct rise in the number of problems in those from happy homes between the ages of 3 and 4, the time when a child should normally be finding himself, "breaking away from the first stage of identifying himself with the wishes of those who care for him and expressing his individuality in some opposition to authority." [12] The number of problems then decreases between the ages of 4 and 6 suggesting that the child has learned to express himself in some acceptable way and thus has become socialized with a minimum of maladjustment. On the other hand, while the group from unhappy homes shows a slight rise in the number of problems in the third year, there is no appreciable decrease between 4 and 6, suggesting that this group may be generally slower in reaching a socially acceptable expression of independence. This is conceivable since they have had only maladjustment in the relations of the adults about them from which to learn.

Likewise the intelligence quotients of the children from the harmonious group are consistently higher, over one-half rating as superior while less than one-third from the other group are in this class. Also, at the other end of the scale, this group has over twice as many as the harmonious group who classify as dull. This may or may not be significant, as no definite statement can be based on so small a number of cases; but (if we believe that "intelligence is the general mental adaptabilty to new problems and conditions of life," [13] and is tested as such), it is reasonable to believe that not only inherent capacity but emotional control or drive influences the score, so that, while the native ability may be no lower in one group than the other, mental development and efficiency of accomplishment may have been affected by emotional disorders.

Of course, this whole study concerns only 100 cases and can be taken only as bearing out in a more general way the specific instances in the following illustrative cases where domestic friction does seem to have a rather direct relation to numerous undesirable problems in the children.

Case I. Dick was referred to the clinic by the nursery school, for vomiting and destructive behavior. He was a small, pasty-looking boy with shaggy dark hair, large brown eyes and a rather thin face with receding chin. Physical examination showed him to be without physical defect except for his receding lower jaw which allowed him to drool continually. His general health was good, but, since he had five convulsions between the ages of one and three years, and since both parents have a history of convulsions in childhood, epilepsy could not be

[10] Allport, Social Psychology, p 101.

[11] Mental Health Bulletin, Illinois Society for Mental Hygiene, III, 3.

[12] Kirkpatrick, The Fundamentals of Child Study, p 135.

[13] Pintner, Mental Testing, p 56.

excluded. His birth and early development were uneventful although his mother was worried and unhappy all during her pregnancy.

Perhaps the best way to describe his personality will be through mentioning some of his conduct at the nursery school and at home. His teacher reports him as selfish and tryannical, refusing to share anything of his and screaming in a temper when another child has something he wants. He teases the smaller children and plays roughly with them, throwing the toys about in an aimless excited way. Before visitors he is even more active showing off in a silly fashion, shouting, running about and making strange animal-like noises. Dick seems to fully appreciate his power in his home and takes every opportunity to use it. He whines and fusses for what he wishes, and if this method fails he stages a tantrum in which he shrieks, hits and kicks. He is jealous of his parents, and objects to his mother's even patting the dog. At night he refuses to go to bed until his mother goes and insists upon sleeping with her. If any attempt is made at discipline, he screams in an angry, tearless fashion, or simulates the beginning of a convulsion and father immediately dances attendance. Mealtime is just one more struggle when he refuses anything he does not like and vomits if urged, then later demands milk and crackers. Often, after any unusually stimulating day, he has night terrors, sometimes for three or four nights in succession.

As a background for this picture we have a home situation in which mother claims to have been unhappy with her husband since marriage. She calls him a "typically spoiled mother's boy," says he was never taught any self-control or to give in to anyone. He is selfish, wilful, and unreasonable; he throws all responsibility on patient's mother; and, although he refuses to let her carry out any of her own plans without interference, he blames her if anything goes wrong. After the first year of marriage father had a "nervous breakdown" and for four years stayed home and let mother support him by doing stenographic work. Finally her doctor told her she was foolish to do it and she "made it so hot" for her husband that he has worked ever since. Nevertheless, the situation has grown steadily worse. Her husband was disgusted when he learned she was pregnant and nagged and abused her the entire time she was carrying patient. Since Dick's birth his father has seemed devoted to him but in a selfish way. Mother thinks his fear that Dick will have a convulsion governs his treatment of the boy and is due more to the loss and inconvience it would cause him if patient died than to any real interest in the child as a person. Father will not allow patient to be disciplined prefering to give him his way and have immediate peace and no crying; and mother, not daring to interfere, makes an ineffectual attempt to secure obedience by nagging. When Dick was about two, father became physically abusive to mother and she left him one night, going to the home of a friend of hers. Father had a most difficult time with Dick and the next day begged her to return. Since then he has not abused her physically, but she feels that the biting remarks and continued criticism which she now suffers are almost worse. There have been various episodes which have made her feel that she could not endure the situation longer and she has consulted a lawyer about a divorce, always putting off the final procedure thinking she must keep a home for Dick. However, lately she is beginning to feel that the bitterness of the home atmosphere to which he is subjected may be worse for him than the effect of breaking up the home. She has tried to discuss with patient's father the consequences to Dick of hearing bickering and quarreling whenever he is at home and of hearing each parent accuse and belittle the other, and argue over his symptoms, not only suggesting continued undesirable behavior, but the use of what appears to be the start of a convulsion to gain parental obedience. Father merely swears in answer and allows the child to continue to do just what his mother has told him not to do, the situation is also complicated by the presence in the home of an old lady who brought up patient's father and who now takes his part against mother of whom she disapproves because she has continued to do office work and keeps a rather careless untidy home.

At present Dick is spending five days a week in the nursery school, and his mother has succeeded in establishing an early bed time for him so he is concerned as little as possible with the home conflict. He has shown marked improvement in his ability to get along with the other children at school, and now eats heartily of whatever food is given him. His teacher feels that he is making a distinct effort to gain approval by conforming to the requirements made of the group. However, his mother sees only slight improvement; he seems to dance about deliberately doing what he is asked not to do, knowing that he loses the approval of one parent with a certainty of gaining at least the consent of the other, and obviously following in his reactions to them the sort of responses they make to each other.

In this case the physical heritage as well as the social is probably an important factor. In view of the fact that the boy has had convulsions and has shown extreme emotional instability, his inheritance cannot be ignored, although, judging from his rather quick response to the regulated life at the school, one feels that he might have done well enough in a home where the social heritage would have been more adequate. However, suggestion and imitation being such important factors in the life of any child, it is not surprising that this child who is inherently unstable from the emotional standpoint assumed, very naturally, the erratic behavior of his parents which he saw in operation daily; and especially since these methods worked out, at least to his immediate advantage, His behavior pattern at home has been built up conditioned by antagonism, discontent and selfishness; and it seems doubtful whether more than a limited change can be brought about in his conduct there, unless the fundamental feeling of the parents toward each other can be altered. Fortunately the mental life of a child is so plastic that if he can be made to appreciate his relationship with other individuals and be made to feel that approval is going to contribute to his material welfare he may find it expedient to replace his blind selfish striving for satisfaction by conforming. But one wonders if, after spending his most impressionable years in emotional confusion, his later conformity and control will be more than a rather flimsy superstructure.

Case II. Elmer, a slight, active Syrian boy with black hair and eyes, now 4 years old, was brought to clinic for the first time at the age of two by his mother who considered him "nervous and highstrung," an opinion based on behavior which she felt reflected the bitterness and tension of her relations with her family.

He was an excitable, over-active child never staying in one place a moment, climbing over furniture and handling everything within reach and whining for what he could not get. He was quite indifferent to his mother's ordinary attempts at discipline and when she tried to restrain him he was stubborn and resistive, crying loudly and steadily until he won out, or if this proved unsuccessful resorting to a display of temper in which he lay on the floor screaming, kicking his heels and biting or scratching anyone who tried to touch him. His mother considered him persistent and wilful to an abnormal degree. She usually fed him at meal time as he refused vegetables, bread and butter, porridge and eggs, often vomiting when they were urged upon him. At night she had to stay with him until he fell asleep, and although he usually slept without restlessness, he wakened screaming at any unaccustomed noise, and wet the bed regularly. For such a young child he showed an intense emotional life — he disliked other children, was markedly jealous of his younger sister, attacking her if left unwatched. He was fearful of the dark and strange places, and at sight of new people ran screaming to his mother. He wanted to be with her all of the time and would not go to anyone else, refusing to leave her for the psychological test and at every question, whether he could answer it or not, turning to her and whining for help. A fifteen year old uncle taught him to masturbate and, although his mother had put a stop to this, for some time afterward he had become excited over seeing her bare arm or leg, rushing to her and throwing his arms tight around her.

Psychological examination showed a child with normal intelligence but "highly spoiled and trained to disobey and whine." Physical examination showed him to be in fairly good condition although somewhat underweight. His parents have always considered him delicate although his birth and development were normal and he has had no children's diseases or other serious illness. At 10 months there were some nutritional difficulties which were soon remedied, and at 16 months he had one convulsion which mother lays to an overheated room and noisy crowd of visitors which excited him. He has always seemed to feel quite keenly the discord between his father and mother and the maternal relatives. One night he was wakened by an angry altercation between his father and maternal grandfather which frightened him so that he became cold all over and could not speak for half an hour.

For financial reasons it has been necessary for patient's family to live in the building with the maternal relatives ever since their marriage. This has been a most unhappy arrangement as patient's mother wishes to bring up her children according to modern American methods and the grandparents cling to the old Syrian customs trying to exert the authority they feel should be accorded their age and relationship. They interfere with discipline and training to such an extent that when Elmer cannot gain his way from his parents he runs to his grandparents who tell him he need obey no one, that since he is the boy and will some day be the head of the family, he can do as he pleases and that nothing is too good for him. Yet they criticise mother because the children are noisy and unmanageable, and maternal uncles and aunts join in the general fault-finding. Mother feels only resentment toward her family and considers that she has always been discriminated against. From childhood she has been unhappy at home because of the poor living conditions and her father's ugly temper. She married, just to get away, a man considered inferior to her socially; and conditions have been even more unbearable since, as her parents taunt her with the fact that she married beneath her, mentioning it before her husband and children. Patient's mother was in poor physical condition, said to have contracted gonorrhea from using the same toilet as her brother who had it. She complained that she was unable to get her work done and give the children proper care, and she disliked leaving them with their maternal grandmother who swore and used obscene language before them. Her dependence on her family and their critical attitude kept her always on the defensive and in a state of nervous tension. She realized that she was "taking it out" on Elmer when she got wrought up over the nagging and sarcasm of her relatives, and tried to control herself; but everything irritated her, and she found that she was repeating "don't, don't" to Elmer and getting no response except what seemed to be an imitation of her impatient, disagreeable manner. Eight months after the first clinic visit she brought him back saying that he had become so negativistic that she could not manage him at all. In spite of various sorts of treatment, her physical condition was no better; and the wear of constant domestic warfare had left her in such a state that definite treatment for her mental and physical condition was advised, and she entered a psychopathic hospital as a voluntary patient. She had always claimed that she and her husband were congenial and would be happy except for the interference of relatives; and she even went through the 4 months' stay in the hospital concealing that this was untrue as she feared that what she said might get back to her family and make her life worse than ever. However, after her discharge, she admitted that they had no interests in common and were most unhappy together. Her husband still thinks of his brother and mother first and is indifferent to her and the children. She claims that since their birth she has received only curses and abuse from her husband. What the children wear, what they eat, and how they are disciplined are ever present points of conflict. They are already taking sides in these outbreaks. If their father speaks harshly to their mother or strikes her they throw things and try to defend her. Then if they are crossed they use the same uncontrolled methods in defying authority.

During the time his mother was in the hospital Elmer was placed in a nursery school, where, after a very few days, he showed marked improvement in his reaction to directions and even to discipline, taking punishment of isolation without whining or resisting, seeming to realize that here, at least, his companionship was not desired when he misbehaved.

Elmer seems to be a suggestible child responding readily to his environment and utilizing any weakness he finds in it. His problems, except feeding and enuresis, which were practically cleared up, seem to be mainly of an emotional nature; and (since they disappeared to some extent in the short time his mother was away, and his day was spent in the controlled, harmonious life of the school) it seems that many of his unfortunate reactions, which were fast becoming habitual, were closely related to his mother's conflicts and to the adult attitudes which surrounded him and furnished an example for imitation as well as a tool which he used (by playing one faction against the other) to his own advantage. Thus he was hampering himself by the illusion that, by making sufficient disturbance, all circumstances would alter to meet his desires.

This is a particularly hopeless situation unless the children can gain sufficiently socialized standards outside the home; for the family income necessitates dependence on the maternal relatives who are critical and antagonistic, and, although continued effort has been made to bring the parents to realize the effect of their behavior on the children, only their more violent and obvious actions have been altered, and the steady drag of disappointment and rebellion is still at the root of the family feeling exerting an influence on the children which "is none the less real because it comes about through a thousand daily acts rather than through a few major decisions. In the latter case the significance of what parents are doing comes home to them, whereas the cumulative significance of tones, gestures, impulsive comments and so on is something of which parents are apt to be unaware." [14]

Case III. Ruth, a vivacious Jewish child of 5 years 9 months, was brought in to clinic by her stepmother because of her refusal to eat unless fed. Tests showed that she had normal intelligence although it was difficult to gain her cooperation. She has had a good share of illness. As an infant she had measles and double pneumonia; at one year she was treated for impetigo, had running ears; and, at that time, her adenoids were removed. She also showed a positive Von Pirquet. Since, she has had chicken pox and grippe, but Von Pirquet is now negative and her general health is good.

In this case the poor physical condition during her first year or so seems to have been an important factor in building up undesirable behavior. Because her mother had tuberculosis at the time of patient's birth and died of it when she was 4, her father has always feared Ruth might develop the disease and has made her the object of great solicitude, feeling that she must be made to eat whether it meant that he sat for an hour or so coaxing and forcing the feed in, a spoonful at a time, or whether it meant beating her into submission. He has succeeded in building up such an emotional reaction to meal time that she habitually refuses anything offered her at the table and, if possible, fills up on candy and ice cream which she gets from the neighbors.

Ruth's first visit to clinic was typical of her reactions. She entered the examining room and immediately flew into a violent tantrum, screaming, kicking the door, and tearing off her clothes to throw them about the room. After about fifteen minutes during which no one paid any attention to her, she quieted down

[14] Sheffield, Journal of Social Forces

put on her clothes, and asked to leave the room. Her behavior at home follows the same pattern, and proves more successful — she screams for hours unless her father is home at mealtime. At night there is another performance of the same sort unless she is allowed to sleep in bed with her parents. The moment she is conceded to the noise stops, and to avoid interference of neighbors who have gone so far as to report her father to the police for cruelty, she practically always is given what she sets out to get. She has become defiant in face of any discipline, taking the attitude that anyone who interferes with her is unjust and out of harmony with the whole neighborhood which she calls to her aid by piercing shrieks. She is fault-finding and whiney, even when asking for things she expects to get, and answers any advance by striking, and shouting in a petulant tone "Get away." With other children she is jealous and belligerent, refusing to allow her cousins to sit on their own mother's lap if she is present, snatching their toys and hitting and pushing them for no apparent reason. When two of her cousins, trying to divert her at clinic, offered her a ball, she slapped one and grabbed the ball throwing it forcibly in the face of the other; then burst out crying and rushed to her step-mother. With outsiders she takes a self-pitying, abused role; on one occasion reciting to visitor in parrot-like tones, "My father beats me and my mother won't let me in."

Such behavior certainly is undesirable and probably seems quite abnormal, in a child with average intelligence and good physical health, until the emotional forces which have surrounded her from babyhood are considered. Her father and her own mother never were congenial. Because he did not find out until after marriage that she had been in a sanitarium, he felt that she had deceived and cheated him, and prolonged marital discord resulted. Six weeks after her death he married a Russian Jewess who had been in this country but a few months. She is a good housekeeper but from a family notorious in the neighborhood for quarreling and immorality. The neighbors and agencies who have dealt with her consider her subnormal, and patient's father seems dissatisfied with her saying that she is too stupid. She does not want patient in the home and cannot handle her, yet gives the impression of being even more indulgent than the father by interfering with his attempts at discipline because the neighbors criticise her if the child is heard screaming. A maternal great aunt, living in the neighborhood, has always had a finger in the family affairs and, since the step-mother arrived on the scene, has caused considerable friction by her meddling. Ruth goes back and forth from one household to the other, as it suits her pleasure, being allowed to do in one place everything forbidden in the other and hearing her father belittle the aunt and the aunt criticise and berate her father and stepmother for their treatment of her. This leads her to feel justified in her behavior at home and to become more and more defiant toward parental authority. The aunt has aroused the neighborhood to sympathy for the child and even taught her own children to give in to Ruth's whims out of pity for her. Thus the child is left in complete control of two antagonistic environments, each inciting her to disregard the other and to think of herself as a most important and injured member of both and of anyone who crosses her as unreasonable and unjust. Her environment has kept her well supplied with models of undesirable behavior in frequent out and out brawls, with step-mother shrieking in profane language, father beating step-mother for interfering with his parental authority, and the aunt and step-mother attacking each other tooth and nail in the presence of patient, neighbors and worker.

Although perhaps we are not quite in accord with Wilfred Lay's statement that it is the mental and spiritual environment which creates the mind of the child,[15] there is certainly sufficient unwholesomeness in the personal environment which has surrounded Ruth to account for her conduct. And yet the possibility of inherent factors of extreme pugnacity and selfishness could hardly be discounted if subsequent circumstances had not pointed so definitely to the home attitudes as the basis on which her antisocial conduct had been founded and still rested. Arrangements were made to place Ruth in a foster home for careful observation and training, with results which, in an astonishingly short time, established the fact that here was a quite normal child, suggestible, good natured, and amenable to training, who had met the confusion of her unhappy home situation in much the same way as the adults in the family had, by taking the offensive in every issue, considering only her own desires and fighting for them. Within a few weeks she adjusted so successfully to her new home, showing no sign of her former conduct and emotional disorders, that the agency which had supervised her refused to keep her longer saying that they wished to place only "problem children."

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[15] Lay, The Child's Unconscious Mind, p. 181

Case IV. The Black's, mother, father and four children, live in a gloomy three-room tenement off an alleyway in a crowded part of the city. Their rooms are neatly furnished with bare necessities, and only the kitchen and bedroom are heated in winter, making exceedingly close quarters. With their small and irregular income they have received both public and private aid on various occasions. From the day of their marriage the mother and father have quarreled and wrangled. Both admit that there is no love between them but say they wish to keep a home for the children. Mrs. Black is a high school graduate and earned a good salary as a bookkeeper before her marriage. She has studied music and enjoys social activities. She feels quite superior to her husband and has had this emphasized by her family who objected to the marriage on the ground that Mr. Black was not her equal socially. He had only a few years in grammar school and is a mechanic by trade. He shows no interest in the home and pays no attention to the children except to swear at them or whip them when they annoy him. His wife says he is conceited and stubborn and will not accept advice or suggestions from anyone, always taking the opposite side of any question, "just to be contrary." He cares nothing for recreation and resents his wife's desire to go out. There is constant disagreement over small matters, and the two swear and shout at each other over the most casual affairs. Mr. Black is never satisfied with anything his wife does although she is a fairly good cook and housekeeper. She says he is selfish and inconsiderate and admits that she is quick tempered and irritable. The children furnish material for many arguments. When their mother tries to train them consistently their father interferes, seemingly more to antagonize her than because he cares what the children do. For instance, if she refuses to give them dessert until they have eaten their dinner, he passes it to them while he calls her down for mistreating them; then, the next day, if she gives in to their whims and substitutes some other food for one they refuse, he swears at her, calls her a fool, and forces the children to eat what was originally set before them. She complains that he never confides in her or considers her in his plans, yet she follows the same policy with him: — when advised to put the children in the nursery school, she planned to do so without their father's consent, saying that what he didn't know wouldn't hurt him and that he would be sure to say no if he thought she wanted to send them. At every turn this couple seems to be at cross purposes, and it has been much the same ever since their marriage. Mr. Black seems to take delight in taunting and criticising his wife before anyone, and she manages to irritate him by bringing up his weaknesses in every conversation. Every subject they discuss ends in an altercation.

In this family the four children are under four years old, and the oldest two have been known to the clinic for a little over a year. Their mother sees in their behavior the effects of the relationship between herself and her husband, and, with the advice of the clinic, is trying to regulate the family life so as to set as desirable an example as possible; and she has made some headway. The interesting point in this case is the entirely different and, perhaps, equally unwholesome ways in which the two older children have met the situation.

The oldest child, Doris, was brought to clinic when 3 years old; an irritable whiney child who cried at the slightest thing. She was rather peculiar looking with thin hair, slightly protruding eyes and a tense strained expression. She moved about quickly, and her liveliness gave the impression of alertness which was contradicted by an I.Q. of 88, classing her as dull. Physically, she was in good condition and has never been really ill, although she had some nutritional difficulties as an infant.

Her mother says she was an exceptionally good and happy baby but has grown more and more difficult to manage. She complains, whines and cries over the most trivial things and seems generally discontented. Her mother calls her "touchy", says she takes any reprimand seriously and screams as if badly hurt. If spoken to loudly or even if she is present when her mother shouts at John, her brother, she shakes from head to foot, lets out piercing shrieks, then, for some time afterward, her hands tremble so that she spills or drops whatever she touches. She is easily excited by strangers, is friendly and wants a great deal of notice, particularly attracting attention to her clothes. She never likes to be left alone and if put in a room alone to sleep will get up and come out into the kitchen where her mother finds her sitting in a rocker. She plays with few children besides her brother and never attempts to defend herself against them although she starts numerous quarrels. She shows an unusual attachment to her brother John, 1 year younger than herself. When she was separated from him at the nursery school she fretted and became so excited that she spilled her food at table, wet or soiled her clothes if spoken to abruptly, and screamed at any sudden sound. She had to be put in a room alone for her nap as she jumped out of bed at any slight disturbance. After about 3 months at the school Doris' whole behavior improved. She became reconciled to not seeing John and no longer soiled or wet herself. She gave up her screaming and became one of the most tractable yet self-dependent of the children in the group. She now sleeps in the room with the others, seldom cries, and amuses herself without unusual demand upon the attention of her teacher. Her whole expression is more contented and serene. The strained, staring look seldom appears. Her motor control seems fairly good except under unusual excitement.

While Doris seems to have become oversensitive and over-distractable and to be stimulated by the family haranguing until she practically loses her self-control, John, her younger brother, has accommodated himself to the situation in quite a different manner. His mother brought him in because of extreme contrariness. He refused to do anything unless hit, and reward or punishment seem to have no effect. John is a solemn looking child, tall and slender, with a large head and expressionless face. Physically he is in poor condition. At 3 months he had rickets and a malformation of the back which necessitated his being strapped to a frame for six months when he had to be taken off because of double pneumonia. His latest examination showed him to be in too run down a condition to stand a tonsillectomy which had been advised. He is a restless sleeper, and wets the bed nightly, and his clothes occasionally. Mentally he also grades as dull, with an I. Q. of 85.

John responds to every situation by resistance. His mother may shout at him and scold him, but he goes on about his business ignoring her until she makes a move toward him, when he may obey her or get out of the way. He wants to be near his mother continually and is extremely shy of strangers, screaming and throwing things at anyone who approaches him. He shows no affection for anyone but will not leave his mother. What he mainly seeks is to be let alone; when playing out he ignores other children although he will fight if they annoy him. At home he refuses all foods except bread and sugar and milk. When he first entered the nursery school he refused to eat at all, would take no part in the group play and seemed not to notice directions given, but collected as many toys as he could hold and seemed content to sit quietly by himself. His behavior was so extremely negativistic that for several weeks his teacher wondered if his hearing or mental ability could be defective. If let alone he caused little trouble, but if urged to conform he had violent temper tantrums. Slowly he has responded to the regular routine of the school and learned to eat and play with the others and to follow the few regulations. His teachers now feel that he is quite normal but extremely persevering and that opposition only increases his determination. Unlike Doris who seems to have become oversensitive to criticism or disapproval and who will do anything to gain approbation, John is not at all concerned with either and goes his independent way with no thought for anyone but himself. He has so completely shut out his environment as to be almost inaccessible at home, and his mother brings him to clinic despairing, yet rather pleased that she "can't do a thing with him." In this case. as in the other three, we can only show parents what difficulties they are storing up for their children, and help to furnish some stabilizing influence outside the home at as early an age as possible from which the child may learn standards of healthy emotional response and socially acceptable behavior. "We cannot break up the facts of kinship nor eradicate its natural emotional consequences. What we can do and ought to do is to set people free to behave naturally and to change their behavior as circumstances change."[16]

The limited number of cases used makes the results of this study suggestive rather than conclusive, but the comparison of the two groups chosen shows up the children from inharmonious homes to marked disadvantage both in the number and nature of problems occurring, with an overwhelming proportion of personality difficulties, which, after all, is what might have been expected since these children have been exposed in their most receptive period to impressions of discord, — intensified, perhaps, beyond other impressions by the element of emotional shocks involved and by their constant recurrence in the everyday contacts of the home —, and since the emotional, as well as the intellectual or physical, education of a child is "largely a process of acquiring in the first place conditioned reflexes and then more permanent associations and systems of conditioned reflexes that we call habits."[17] The results of the comparison, as well as the cases studied in detail, would seem to indicate a distinct need, among parents especially, for a better understanding of the dependence of the child's emotional life on their own and a realization that this life "is in a process of development; that it forms upon what it feeds upon, and in accordance with quite definite laws; that it can be formed in such a way as to give integrity to personality and make for ease of adjustment and the free play of ability, or it may be formed in such a way as to produce a personality easily disintegrated by even its own conflicts, with energies laregly consumed in the friction of even unimportant adjustments, and with little or no opportunity for the play of abilities — frustration, unhappiness, ill health."[18]

Summary of Points

1. From 1000 case records, 50 of children from markedly harmonious homes and 50 from inharmonious homes were chosen for study.
2. Frequently the exact causes of friction in these families could not be determined; but many of the contributing factors were quite evident, economic inefficiency and educational deficiencies heading the list.
3. These cases were studied according to the relative number of problems occurring in the two groups with the following results:
    a. Physical manifestations were slightly less numerous in the group from unhappy homes.
    b. Personality difficulties appeared in about twice as many individuals in the group from unhappy as in the group from happy homes and the excess of personality problems per child was even more pronounced.

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[16] Shaw, Treatis on Parents and Children, p C

[17] Burnham, The Normal Mind, p 162

[18] Williams, Mental Hygiene and the College Student, Vol. IX, p 200

c. Asocial conduct occurred in a small proportion of the cases but in three times as many cases in the unhappy group as in the happy group.

4. Problems in the group from happy homes appear to be more common between the age of two and three and then have a tendency to decrease, while in the other group they tend to remain constant until the age of six, indicating a slower adjustment to socially acceptable conduct.

5. The intelligence ratings for the harmonious group is consistently higher than in the inharmonious group.

6. Cases of five children with marked personality disorders show the relation of the child's problems to the attitude of the adults toward each other, this relation being emphasized in each case by the fact that the child responded satisfactorily to the stabilizing influence of either a nursery school or foster home.

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A CHILDREN'S CLINIC AS A STATE HOSPITAL CONTRIBUTION TO THE COMMUNITY

by C. A. Bonner, M. D.
Superintendent Danvers State Hospital

Preventive medicine needs no apology; its claim to primary importance in the life of the community is being admitted to a steadily increasing degree on every hand. It is then but in line with this general trend that psychiatry should turn from its exclusive concern with those whose power of adjustment has entirely broken down and devote some attention to prevention. And here more than in any other branch of medicine building for health means working in the field of childhood. The possession of a healthy attitude towards the environment, towards one's own self, an emotional life responsive but controlled — these all must begin developing in childhood if they are to characterize the grown man or woman. Conversely the serious failures of adaptation found in later adolescence and maturity are practically always rooted in personality "twists" reaching far back into early life.

Believing these things and further that the State Hospital should seek every practical way in which it might serve the community, the Worcester State Hospital, began in 1921 a "mental hygiene" clinic for children. This was intended largely as a demonstration of the need for such work and of its possible helpfulness to schools, courts, children's agencies and all those in the city dealing with maladjusted children. The fact that this is a rather unusual field of activity for a state hospital to enter makes it seem worth while reporting what methods are being used and what measure of success the work has achieved.

As up to the present time the work has been done entirely by members of the hospital staff it has been largely something done *for* rather than with the community. It has, however, been very definitely our conviction that the task of the clinic was not merely that of offering advice as to the problems presented by individual children — much less that of placing labels on them as some expected — but also that of impressing upon the public the need for such individual study of maladjusted children, as the clinic attempts to do. The fundamental test of the success of the clinic therefore lies in the extent to which the community shows acceptance, active participation and support. The methods are in general those employed by the "child guidance clincs" organized by the National Committee for Mental Hygiene under the Commonwealth Fund. No matter what specific problem any given child may present which brings him to the clinic the attempt is made to visualize him with his capacities and his handicaps reacting in a certain way to a definite situation. This is, if you will, axiomatic in modern psychiatry, but unfortunately it has not been axiomatic in studying children and their failures—precisely where the psychiatric method of personality study would seem most applicable.

It need only be mentioned that this involves a careful study of the child's physical capacity, any obvious defects limiting his activity, his nutrition, health habits, and in some cases the functional activity of the endocrine glands. A psychometric examination is also made to determine intellectual capacity, using both the Binet and various types of achievement tests. The need for this data is of course obvious — not least when it serves to rule out mental defect as a basis for delinquency or other type of maladjustment.

So much for the child's working capital, so to speak. Not less important is the knowledge of the home environment, the family stock, the child's own previous physical and social history and his general behavior reactions in the home, school, etc. What friends does he make, what are his recreational and other interests and finally what is his general personality makeup? Part of this data is secured through the social worker and partly through the psychiatric study at the clinic. The final interpretation of the whole is made after conference by the whole staff and recommendations made to the parents or others interested by the psychiatrist who is in charge.

It need hardly be said that while at times the factors are obvious a considerable number of children require a good bit of study before any adequate opinion can be given as to their needs and contact and supervision may be necessary for a fairly extended period. In cases coming from schools and private homes this is effected by a trained social worker attached to the clinic. It is one substantial evidence of the impression made by the work of the clinic that recently the city has voted money to pay the salary of this worker and thus for the first time is taking a part in supporting the enterprise.

It is of some interest to note the sources from which these problem children come. At first a large proportion came from agencies dealing with children both dependents and delinquents. Gradually as the work of the clinic has become more widely known an increasing number have been referred by schools or brought by parents themselves. During the year 1927 a total of 107 children — besides 35 girls seen at the Girl's Welfare Home for unmarried mothers — were studied and of these 15 were definitely under par physically, 37, about one third of the total, had some degree of mental retardation as a factor in the situation, and in a large proportion of them all environmental factors, such as non-functioning homes, were important in causing the difficulty or failure in adjustment.

Mention may properly be made of two ways in which the clinic has attempted to extend its work aside from the study of children referred to it. A weekly case conference is held from October to May for children's workers, teachers or others interested in discussion of the causal mechanisms of conduct problems or other maladjustments. Case histories are used as the basis for these conferences and the discussions include also practical methods of meeting the problems involved.

It is not too much to say that this conference is becoming a real forum for the discussion of child welfare problems in the community. Then also a little over a year ago a citizens' advisory committee was organized which has monthly meetings in which the problems met in the clinic are presented and through this committee a great deal is being done to stimulate the interest of the community in the needs of its children and to create an atmosphere which will make such work much more effective.

Finally there seems no question in the minds of those knowing the work of the clinic that it offers a resource of real value to those dealing with problem children or even the problems which normal children present. On the other hand the increasing public support and the continuous demand for such help on many sides has convinced the hospital that the work has justified itself from many angles — even that of better community contacts for the hospital itself. There seems no doubt that many communities and many hospitals would discover similar mutual advantages in such relationships.

VARIATIONS IN THE ABILITIES OF THE FEEBLE-MINDED

Margaret Otis. PH.D.
Belchertown State School

It is not a newly discovered proposition that the term feeble-minded is applied to a group that is far from homogeneous. Nearly all the authors who write on the subject point out this fact. Porteus[5] among others speaks of the "wide range of industrial and educational capacity as well as social and moral characteristics among the inmates of any institution." What constitutes the condition of feeble-mindedness is far from being scientifically determined. The failure to adapt to environment is, perhaps, the most striking characteristic of the vast borderline group. It is this group that puzzles the social workers and directors of institutions more than any other. The fact that most of these ill-adapted individuals do not test high is an added indication that they need care, but it is not alone the fact that they fail to pass tests that makes the diagnosis feeble-minded appropriate. The Binet-Simon tests even are not now accepted as the sole criterion for diagnosis, for testers well know that a Binet mental age does not represent the whole story of the mental life of a so-called feeble-minded individual.

In a discussion concerning the usefulness of the Binet tests Dr. Walter E. Fernald once said to the writer: "What do we learn from the fact that a certain child is reported as having a mental age of eight years? A large number of children may also be listed as having the same, but these very children differ considerably among themselves. What, then, does the mental age eight signify? We are in need of a psychological method that will give us more information about the varying capacities of our children." The truth is that the study of individual differences has long absorbed psychologists and many attempts have been made to evolve a profile scale that would picture the mental make-up of the child. This method was suggested some time ago by William Stern and others have worked on it. The psychograph of Rossolimo [4] is noteworthy in this connection. The question arises, to be sure, whether there are definite "capacities" of the mind that can be measured as such. Yet, if we follow Thorndike [8] we may believe that the mind is a collection of functions each of which is complete in itself. (See Educational Psychology, 1910, p. 188.) Whatever attitude as to the nature of intelligence we may take theoretically the fact remains that our tests record striking differences in the capacities of our feeble-minded group. In some respects they even approach normality and this fact has not been emphasized as much as it might be. A profile of the abilities of a feeble-minded child, as far as it can be made with the test material at hand, may show great unevenness with almost normal proficiency in some respects and in other perhaps what even amounts to a definite disability. (See Hollingworth[2] p. 124. Also Freeman[1], p. 117).

With the idea in mind to make as complete a study as possible of some high grade cases a series of tests was given during the winter of 1926 to two groups of children in the Belchertown State School. The children, 16 boys and 31 girls, were all in the upper class room of the academic department, and were doing, some the 4th, some the 5th, and some the 6th grade work. They were mostly high grade or borderline cases. The range of the chronological ages of the boys was 12 to 18, median 14–6; of the girls the range was 10 to 21, median 16. The girls were slightly older as a group. The range of the mental ages of the boys was 7–6 to 11–11, median 9–6½; of the girls range 8–2 to 12–8, median 9–5. The range of the I. Q.'s of the boys was .47 to .85, median .64½; of the girls range .51 to .80 median .62. The mental level, as we measure it, was about the same for the two groups. The groups were unselected, all in the class room taking part in the tests so that they may be considered a fair sample of the children who are to be found in a feeble-minded institution. The social history, when examined, would show the usual stories of "father alcoholic," "mother immoral," "illegitimate, father unknown", "insanity in family", "mother metally deficient", and so on. One boy was a deaf-mute, one was operated on for cleft palate, a number have speech defects. In short, the personal and family histories are the kind usually found for institutional children.

The test series included the following that were given individually: 1. The Stanford Revision of the Binet-Simon Tests. 2. The Pintner-Patterson Form Board Series. 3. The Woodworth-Wells Substitution Test. 4. Test for Mechanical Ability, Stenquist for Boys and the I.E.R. for Girls. 5. Immediate Memory, Digits forwards and backwards adapted from the series in the Binet Tests. The following group tests were also given: 1. The Holley Sentence Vocabulary Scale. 2. For Idea-Memory the Marble Statue as in Whipple, norms given by Pyle. 3. The Myers Mental Measure. 4. The Porteus Maze Tests. 5. The Margaret-Otis Suggestibility Test. 6. Logical Relations according to Pyle: Free Association, Opposites, Genus-Species, Part-Whole. 7. The A. S. Otis Arithmetical Reasoning Test.

Not all of these tests were given to the group of girls on account of lack of time. The four following were omitted: The Holley Vocabulary Scale, Digits forwards and Backwards, The Porteus Maze Tests, and Logical Relations.

In selecting the tests the endeavor was to find those that would best show the different mental abilities of the children. A number of them require ability in the use of language, as Vocabulary, Idea-Memory, Logical Relations, and The Binet-Simon Tests. The non-language tests or those that require only enough language to understand the directions are: The Myers Mental Measure, The Form Boards, The Porteus Maze, The Substitution Test, and the Tests for Mechanical Ability. An attempt was made to include some tests of special abilites by using the Margaret-Otis[3] Suggestibility Test and the Otis Arithmetical Reasoning Test. These traits are not isolated in the Binet-Simon series, and are important especially in case of the borderline group that we are at present studying. The series as a whole includes rather a wide range of abilities, and as the tests are given partly individually, and partly by the group method, a minute study of each child was made possible. All the tests chosen have fairly satisfactory norms. For the Form Board series the norms given by Pintner and Patersons[6] are used. (A Scale of Performance Tests, p. 152). For Idea-Memory and Logical Relations we have Pyle's[7] norms. Logical Relations actually includes four different tests as listed above. The age level for each score was found and the median of the four age levels used as the score for the whole test. For the I.E.R. test the age levels were assigned on the basis of the figures given in Toops'[9] Tests for Vocational Guidance of Children, p. 43.

The results of the tests are given in Tables I and II. In Table I the range and

TABLE I.

Range and Medians of Test Scores

	Vocabulary	Idea-Memory	Digits	Logical Relations	Arithmetical Reasoning	Suggestibility	Myers Mental Measure	Form Boards	Substitution	Porteus Maze	Stenquist
Boys											
Range	43 to 2	42 to 7	......	......	11 to 1	70 to 15	59 to 18	......	84 to 201	......	82 to 40
Median	22	25.5	......	......	5	47.5	36	......	101.5	......	61
Girls	......	......	......	......	......	......	......	......	......	......	I. E. R.
Range	......	51 to 6	......	......	8 to 0	70 to 10	54 to 11	......	84 to 155	......	86 to 11
Median	......	31	......	......	4	49	32	......	112	......	54

medians of the scores of the different tests appear; in Table II the range and medians of the age levels corresponding to these scores are given. This is done for the sake of convenience in comparing the proficiency of the children in the different tests, and in order to arrange the profile scales for each child and for the two groups. In Table I the scores for Digits, Logical Relations, Form Boards, and Porteus Maze do not appear, for these tests are scored in terms of age levels and these age levels appear in Table II. In Table III are given the age levels for the scores of the individual cases (boys), so that by following along each line horizontally the profile for each boy may be constructed mentally.

TABLE II.

Range and Medians of Age Levels Corresponding to Test Scores

	Vocabualry	Idea-Memory	Digits	Logical Relations	Arithmetical Reasoning	Suggestibility	Myers Mental Measure	Form Boards	Substitution	Porteus Maze	Stenquist
Boys											
Range	13–5 to 7–0	18–0 to Below 8	14–0 to 7–0	14–6 to Below 8	14–1 to 7–8	16–0 to 6–0	15–9 to 7–4	14+ to 6	15–0 to 6–10	16 to 10–6	18–0 to 9–10
Median	10–5	8–3	9–8	9–7	10–3	10–0	10–3	10–3	12–3	14–6	15–3
Girls	......	......	......	......	......	......	......	......	......	......	I. E. R.
Range	......	18 to Below 8	......	......	12–2 to Below 7–8	16–0 to 5–6	15–0 to 6–2	13+ to 6	15–0 to 8–4	......	16+ to Below 6
Median	......	9–0	......	......	9–7	10–3	9–6	11–3	11–9	......	14–3

It may be interesting to give a few facts about some of the cases. *Case A:* This boy had a court record for stealing. His father was shiftless, ignorant, and alcoholic, and the children were neglected. The boy was said to be too unreliable to be trusted before being admitted to the Institution, but after a few years' training he became trustworthy and a good worker. He is now out on parole. He did 5th grade reading and 3rd grade arithmetic in school. From a study of the age levels reached by this boy in the tests here used we see that the level of his attainment is much higher than that given by his Binet mental age. In some tests he reaches the level of his chronological age, and even goes beyond his age in mechanical ability. He stood lowest in idea-memory and in logical relations. He is not high in the vocabulary

TABLE III

Individual Cases, Boys. Age Levels of Tests

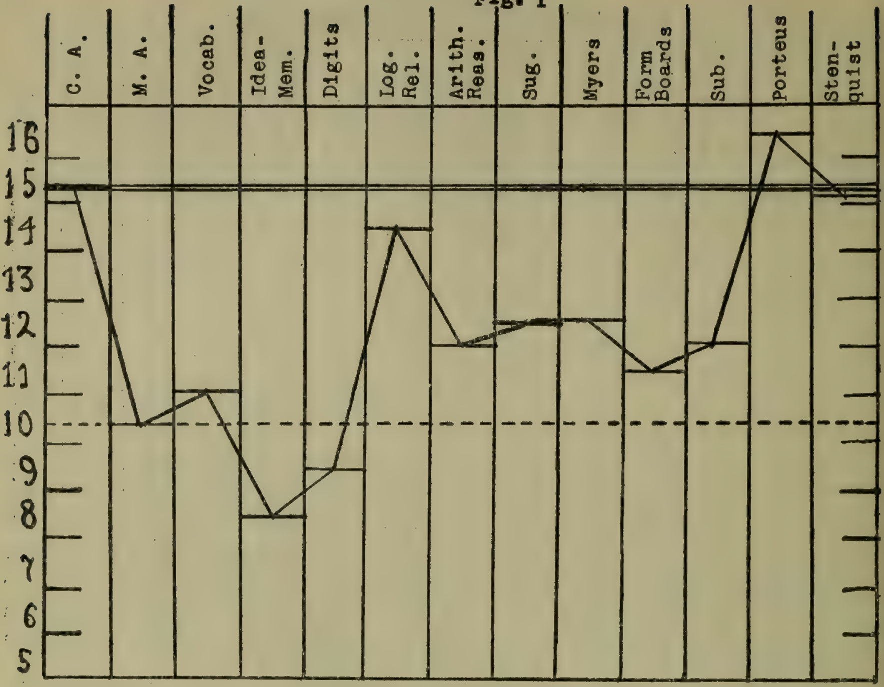
Case	C. A.	M. A.	Vocabulary	Idea-Memory	Digits	Logical Relations	Arithmetical Reasoning	Suggistibility	Myers Mental Measure	Form Boards	Substitution	Porteus Maze	Stenquist
A	16–11	11–6	12–2	8–9	14–6	10–0	14–1	16–0	15–3	14+	12–11	16–0	18–0
B	17–3	10–3	11–6	7–3	10–6	13–9	9–7	9–6	13–6	12–6	13–0	14–6	13–0
C	16–2	9–7	10–7	9–0	8–6	8–6	9–7	9–0	10–9	10–6	14–6	14–6	16–0
D	13–9	8–4	7–0	5–6	7–6	Below 8	8–3	9–0	7–7	9–6	15–6	16–0	11–6
E	14–2	9–6	10–5	9–0	9–6	11–6	11–6	9–6	10–9	8–6	12–9	14–0	9–10
F	13–10	11–11	13–5	16–6	10–6	10–6	11–6	11–6	16–0	13–6	12–7	15–0	17–0
G	18–7	9–7	11–5	16–6	10–6	Below 8–	9–7	10–6	7–4	6–6	7–6	13–6	11–0
H	18–0	7–6	7–0	Below 8–	8–6	Below 8–	9–7	6–0	9–2	9–9	6–10	11–6	16–0
I	15–4	8–6	7–0	5–6	9–6	11–6	9–7	9–6	8–10	10–6	10–9	14–0	14–9
J	15–7	10–4	11–0	8–6	9–6	14–6	12–2	12–6	12–6	11–6	12–3	16–0	15–3
K	14–0	9–7	11–8	8–6	7–6	11–6	10–10	11–6	7–9	8–6	9–11	10–6	11–9
L	12–5	9–10	10–5	10–4	10–6	10–6	10–3	11–6	12–0	10–6	15–6	12–6	16–6
M	15–7	7–10	8–0	6–0	7–6	Below 8–	10–3	9–0	7–10	8–6	14–6	16–0	12–4
N	13–1	8–2	8–0	8–3	9–6	7–6	9–7	9–6	12–9	11–6	15–6	13–6	15–3
O	14–3	8–9	9–7	7–6	10–6	8–3	9–7	10–6	9–10	12–6	9–5	15–6	15–3
P	12–8	7–10	9–9	5–6	9–6	Below 8–	7–8	6–0	8–2	12–6	7–6	16–0	15–9

test, and does not succeed in tests involving the use of language. He stood highest in mechanical ability, the Porteus maze test, and in resistance to suggestion. The boy's high standing in so many tests including his ability in resisting suggestion suggest that his commitment was due largely to faulty environment. This opinion is justified by the fact that he is now doing well on parole.

Case B: This boy has record of insanity in the family, his mother is an epileptic, and a brother is an inmate in another feeble-minded institution. He is undersized and has a poor physical development. He was considered obstinate, stubborn, and untruthful. He did 4th grade reading and 3rd grade arithmetic. Our tests show that the general level of his attainment is slightly above the mental age given by his Binet test. He stood lowest in idea-memory, showing that his mechanism for dealing with ideas has not been greatly developed. Yet he stood high on the logical relations test. He was slightly lower than his mental age would warrant in arithmetical reasoning. He was also low in resistance to suggestion. He obtained the highest scores in tests that did not involve the use of language. He was high in mechanical ability, but inferior to some of the other boys of this group. We have then the picture of a rather mischievous boy, clever at mechanical and manual work, quick in execution of acts that are familiar, without much reasoning ability and no ability in the use of language. He needs the supervision found in an institution. The present outcome for this case is not as favorable as for the previous one, for the boy made his escape from the institution a little over a year after these tests were given.

Case F: This boy was an illegitmate child, mother immoral, father unknown. The mother served two sentences at Sherborn and was at the Northampton State Hospital for two years, the boy was boarded out by the State, then given to his mother who deserted him. He was backward in school, unruly and passionate. At the time that these tests were given he was doing 6th grade reading and 3rd grade arithmetic. In the institution he was considered a bright boy, knowing more than his appearance would suggest. He tried to run away a number of times, but was usually found and returned. He has the reputation of showing temper, swearing and being impudent. The level of this boy's attainment as shown by this group of tests is practically coincident with the level of his chronological age, and this rating is further confirmed by the score he received on the Army Alpha test given that same year, letter rating C, M. A. 13–. He stands lowest on the

Fig. 1


C. A.
M. A.
Vocab.
Idea-Mem.
Digits
Log. Rel.
Arith. Reas.
Sug.
Myers
Form Boards
Sub.
Porteus
Sten-quist
16
15
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5

Fig. 2

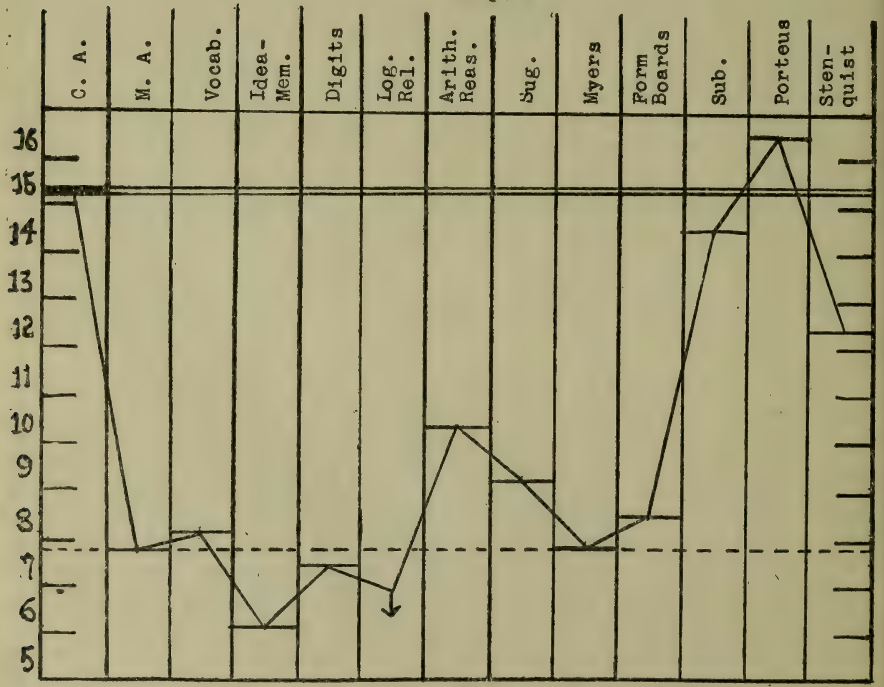
C. A.
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Fig. 3

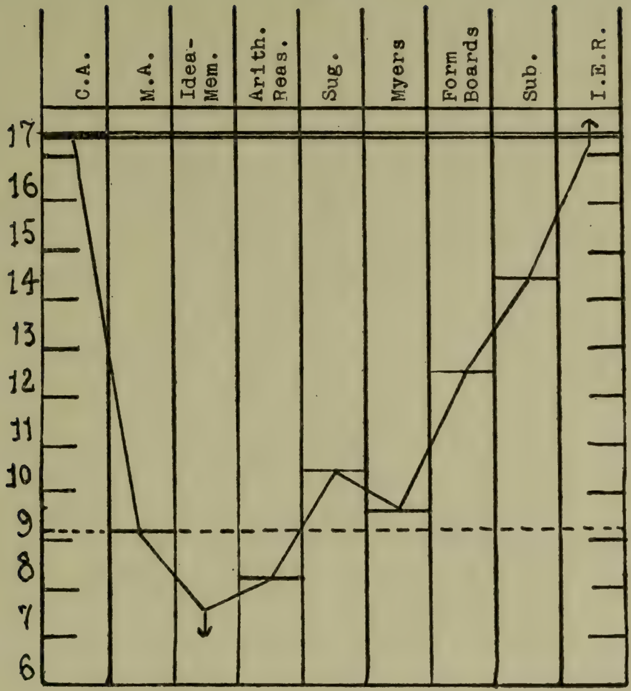
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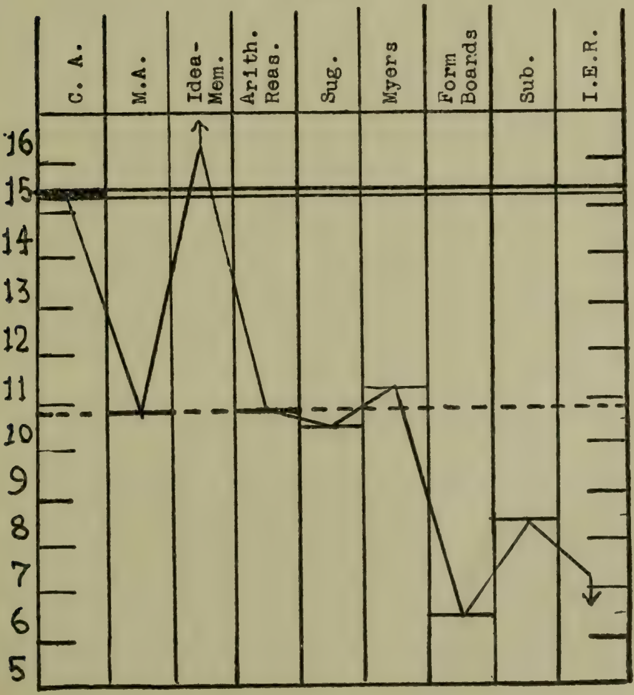
Fig. 4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Digits, resistance to suggestion, logical relations and arithmetical reasoning. The scores on these tests, however, are near the level of his Binet mental age. He stood high in idea-memory, Myers Mental Measure and mechanical ability. We have met for almost the first time a boy who does well on the idea-memory test, and he scores "at age" on the vocabulary test. His ideational mechanism seems to be in working order, and he might be for that reason judged educable. His behavior and failure to adapt, however, are against him; so although he is brighter than boys usually found in an institution, he remains a definite problem.

Case H. This boy is deaf and dumb. He is the oldest of four children, one sister had rickets. His mother was very nervous, subject to "fits". Two uncles are said to be peculiar. He was tried in schools for the deaf, but was finally rejected as not teachable. He was in 2nd grade reading and 3rd grade arithmetic when these tests were given. He required individual attention when taking the tests, and great pains was taken to make him understand what he was to do. The level of his attainment is very near his Binet mental age. He stands lowest in resistance to suggestion and in the Substitution test. He has an excellent score in mechanical ability, reaches the norm for average adult. He has a good score also on the Porteus maze test. He is poor in idea-memory and in logical relations. This is only natural for his handicap of deafness makes his use of language mechanism more difficult. He is keen in noticing concrete things and evidently thinks in concrete terms. He is definitely feeble-minded, and will need supervision for life. He can be trained to do useful work in the mechanical line.

Case I. This boy's father was intemperate and was unable to do much work. The mother was immoral and feeble-minded. The children were committed to the State as neglected. The boy is small in size and has a definite speech defect. He is considered to be a good boy, does not get in serious trouble. He was in 3rd grade reading and 4th grade arithmetic when these tests were given. The level of his attainment is not far from his Binet mental age. In no tests do his scores equal the norm for his life age. He is lowest in idea-memory and in the vocabulary test. He is highest in the Porteus maze and in mechanical abilty. In resistance to suggestion he is only a little above his mental age. This is a case that requires life supervision.

Case L. This boy was an illegitimate child with no family history. He has a record of swearing at an early age, destroying clothing and setting fires. He was admitted to Waverly at seven years of age and attended the Seguin classes. At the time of giving these tests he was doing 3rd grade reading and arithmetic. He has a reputation for being troublesome, lying and stealing. This boy is more a conduct case than definitely feeble-minded. The general level of his attainment in the tests approaches his Binet mental age. In no test does his score go below his mental age. In five tests, mechanical ability, substitution, Myers mental measure, Porteus maze, and resistance to suggestion his score is either above or near the norm for his life age. This points to normal intelligence. His lowest scores are in arithmetical reasoning and in language tests. It is the delinquency that holds this boy back and he is still a problem case.

The actual charts of a few cases are presented here. See figures 1, 2, 3, and 4. Two are cases of boys and two are girls. It is easier to study the case when the age levels of the different tests are graphically represented. On the chart a double line shows the level of the life age of the child, and a dotted line shows the mental age level. Single lines join the levels of ability in the different tests which are indicated above. (Compare Hollingworth, l.c.)

Case J. (See Fig. 1.) This boy is physically well developed and normal. His father was ignorant and a moderate drinker. His mother was considered mentally deficient, and a brother and a sister are also in this institution. There were complaints of his deportment in school before his admission, but here he seems to cause no trouble. He was in 5th grade reading and arithmetic when the tests were given. The level of his attainment is shown on the chart to be considerably above his Binet mental age. He stands lowest in idea-memory and in the Digits. He is rather low in the vocabulary test. He is highest in Porteus maze and in mechanical ability. In these he reaches his own age norm. His scores in resistance to suggestion and in arithmetical reasoning were much above his mental age level. He is high in logical relations. The outlook is fairly favorable for this boy. He has no court record and no unfavorable conduct record in the institution.

Case M. (See Fig. 2.) This boy's parents came from Poland. His father appears respectable and works regularly. The mother was immoral and is said to have stolen money from her husband. The boy is healthy and normal in appearance. He was a school problem, truant, fighter, persistent thief. He was placed in the Special class in school, but accomplished nothing. He was doing 3rd grade reading and arithmetic in the school here when these tests were given. The level of his attainment is shown on the chart to be very near his Binet mental age. He stands lowest in idea-memory, logical relations, and digits. He has a high score in the Porteus maze, reaches in this the norm of his life age. His score in substitution is also high. He is fairly high in mechanical ability, but for the most part the scores cluster around his mental age level. The outlook is not very favorable. He no doubt will profit by supervision throughout life.

The records for the girls show similar variations in ability. Two cases are selected for discussion. *Case I.* (See Fig. 3.) This girl's father was a drunkard, shiftless, and was sent to a reformatory. Her mother was feeble-minded, intemperate and sentenced to Sherborn. Both parents are from very degenerate groups. The girl was committed to the State Board of Charities when she was 4 years old, and was admitted to Wrentham at 8 years, and later was transferred to this institution. Here she was doing 3rd grade reading and arithmetic when the tests were given. She is well behaved, has worked in the sewing room, does hand work. Her chart shows the level of her attainment to be nearly a year in advance of her Binet mental age. She stands lowest in idea-memory and arithmetical reasoning; highest in the I.E.R. test in which her score is higher than the average for girls of her own life age. She is a definitely feeble-minded girl with a decided language disability, but with a special aptitude for hand work. She should be employed in some form of manual work.

Case II. (See Fig. 4.) This case is selected for the reason that it is so different from most of the cases already presented, not different in family history and early environment, but different in mental make-up. The girl's father came from Ireland, was intemperate and immoral, and the mother was feeble-minded. The girl was brought into court as neglected. She has a record of masturbation and sexual promiscuity, and also a record of untidy habits, enuresis. In school work she does very well, was doing 5th grade reading and 4th grade arithmetic when the tests were given, and later she graduated from the 6th grade. Her attainment as shown on the chart is nearly the level of her Binet mental age. She stands very low in the I.E.R. test, in the Form Board tests, and in Substitution. Her records in arithmetical reasoning, resistance to suggestion, and Myers mental measure show about the same level as her mental age. She stands very high in idea-memory, her score being far above the average for girls of her own life age. Her type is quite different from the others that we have been considering. She has a definite disability in hand work and an unusual facility in language work, unusual meaning of course as compared with the feeble-minded group of this institution. She is quite a problem for the school for on account of her sex tendencies she could not be trusted outside, and within the institution is not a good worker. At present she is in the industrial room but does not fit very well there. For the proficiency in idea-memory compare Case F of the boys. It might be that for cases like these more book work could be provided in order to develop as far as possible such ability as they have.

A few correlations between the tests for the group of boys were worked out, but because of the small number of cases they cannot be taken as especially significant. The correlation between Binet and vocabulary was .85, between Binet and idea-memory .72, between Binet and Myers .59, Binet and arithmetical reasoning, .62, Binet and Stenquist .28, Form Boards and vocabulary .19, Form Boards and Myers .78, Form Boards and Stenquist .75, idea-memory and digits .48, idea-memory and arithmetical reasoning. 61, Stenquist and logical relations .02. These correlations are about what we might expect. The language tests agree pretty well and do not agree well with the non-language tests, and it is interesting to find an r .75 between Stenquist and Form Boards.

But we now come to the question as to what is the implication of the material here presented. It should not be confusing that we find so many different age levels quoted for the same individual for we must get away from the idea that any age level, Binet or otherwise, gives us an adequate idea of the mental status of any one of our feeble-minded group. There is really nothing sacred about a Binet test and even if we find on a child's record that he has a mental age of 9–5 or 9–6 it does not mean that he is necessarily exactly similar to a normal 9-year old child. In fact, we may be obliged to abandon the concept of "level" as applied to the feeble-minded. In this connection compare the frequency of the cases that "scatter." A child with a basal age of 7 may actually succeed in some of the 10, 12, or even the 14–year tests. To avoid too much dependence on the Binet rating some suggest a composite score made by taking the average of the scores of several tests appropriately weighted, and a number of such composite ratings are in use. This method may give a fairer estimate of a child's ability but it is still an endeavor to represent by a figure a very diversified and heterogeneous mass of capacities. Why not abandon the one-figure system and recognize the fact that a mechanism so complex as the human mind cannot be reduced to the terms of an equation? A better way of describing our cases would be to speak of certain disabilities and not use the term "feeble-minded" at all, at least as far as the high-grade and borderline cases are concerned.

What, then, are the abilities and disabilities of our sample group? The results of the tests used go to show that most of the children under observation have a decided language disability, whereas, for the most part, they have a very marked ability in hand work and mechanical dexterity. With a median mental age of about 9–6 they fall short of this only in idea-memory. (See Table II). The boys in this test rate a little lower than the girls, but are a little higher than the girls in arithmetical reasoning and in the Myers mental measure. In resistance to suggestion both groups stand higher than children of their own mental age, but do not reach the norm for their life age. The same result appeared from a study of quite a large group of adults in this institution. Off-hand one might think that suggestibility was a characteristic of the feeble-minded par excellence. It is, doubtless, the age factor that enters in, for these persons evidently do gain something from life experience, however limited this may be. Therefore, though apparently child like, they become possessed of a certain sort of wisdom that shows in their tests. The high rank of the boys in the Porteus maze test is noteworthy. It shows according to Porteus' interpretation of his test that they have a certain mental alertness, prudence and planning capacity that is far in advance of their mental age rating. (With reference to these irregularities in attainment compare Hollingworth[2] Ch. VII, and Porteus[5] Ch. XI.).

It is not claimed that the psychograph here presented is perfect from the point of view of a complete analysis of the personality. Every faculty is by no means represented. Rossolimo's profile is perhaps the most comprehensive attempt along this line, but his is not yet adapted to common use because of the lack of norms. It is a tremendous undertaking to analyse the mental functions, to devise suitable tests for each, not to mention the process of standardization. To be complete an ideal psychograph should comprise all possible mental functions including special gifts such as musical and drawing abilities, should have represented also the emotional and temperamental tendencies, and some attempt might be made to rate the child's moral standards. To devise such an instrument would be the work of many years, but it seems to the writer that such an enterprise should be the goal of psychological endeavor rather than the present efforts towards the elaboration of methods of finding just one little figure to represent a child's mentality. While seeing the need of better tools than those at present available, and regretting the lack of an ideal working outfit, yet the practicing psychologist can make some attempts in the desired direction. A large number of tests with adequate norms are available, and with these, though they may be far from perfect instruments, one can do much in the way of obtaining an insight into the mental make-up of the children who are sent for examination. Even though it might be impracticable to give all the children in an institution such a far reaching examination, yet it would be perfectly possible for a certain number of cases selected for special study.

In fact, the psychologist within an institution has a work to do that differs from the ordinary work of the clinic. The diagnosis of the cases are no longer of prime importance, but the practical needs of the institution must be faced, and these are very many. The physicians, the teachers, the social workers, and supervisors, are all dealing with tremendous problems and need all the light that science can give to aid them in their tasks. The physicians and supervisors should have a good knowledge of the child's aptitudes in order to assign him to the appropriate place in the community life of the place. Vocational guidance within the institution is a necessity, and constantly we are gaining more knowledge of its principles and are thus able to render more efficient service.

The teachers also need to make use of the psychologist's findings for it is not necessary to point out that the teacher must get close in touch with her pupils, must have an intimate knowledge of their thoughts and feelings, and must understand to a minute degree their mental and emotional make-up, their interests, and their mental as well as their physical handicaps. To train the children in every possible activity and to develop such abilities as they possess are tasks that necessitate a proper understanding of their capacities.

The social worker perhaps even more than the others needs all the information possible about her cases, for it is she who must fit the girl or boy into a place in the outer world.

Thus we see that psychologists have a definite place in the life of this little world within a world, such as an institution eminently is, and we feel that all our efforts are definitely in line with the life work of Dr. Walter E. Fernald at Waverley. He more than all others encouraged a sympathetic understanding of the children, in Seguin's terms, "made the child feel that he was loved and made him eager to love in return," always offered friendly guidance to the struggling handicapped individuals scornfully dubbed "feeble-minded" by the world's judgment. His work will go on and the world will perhaps grow up to him in time in the understanding of what it means to be an inferior, and in sympathy towards those who are feebly gifted.

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SPEECH CORRECTION IN THE HABIT CLINICS

BY SAMUEL D. ROBBINS
Division of Mental Hygiene

Massachusetts has been unjustly accused of being backward in helping children who are handicapped with speech defects because its Department of Education has not been authorized by the Legislature, as in California and Wisconsin, to employ a state supervisor of speech correction and to reimburse cities and towns for the greater part of the salaries paid special teachers who conduct speech correction classes.

Massachusetts has, in reality, been a pioneer in correcting speech defects in the pre-school child before they develop into speech habits which are much more difficult to correct. If speech training in the unique Massachusetts Habit Clinics can be brought within the reach of all pre-school children in the State, there will be little speech correction work left for the public schools once the cases now in the schools have been corrected. I grant that speech correction classes are now badly needed in all of our public schools, but am convinced that speech correction in these Habit Clinics is the more important and the more efficient of the two.

Speech habits are established between the ages of three and nine, and are usually well formed by the time a child enters school. It is exceedingly difficult to correct well established speech defects in speech classes in the schools because children seldom realize the importance of good speech sufficiently to be willing to take time enough out of their play to practice daily and conscientiously the necessary speech training exercises and to take the trouble to think *how* they speak until they have acquired correct speech habits.

Just as it becomes impossible to write neatly and rapidly when the muscles of the hand, wrist, and arm become tense, so it is impossible for one to speak rapidly and to articulate his words correctly when the muscles of his lips, tongue, and jaw become tense. These organs of articulation must take from ten to twenty different positions each second in normal speech, and cannot function accurately at this speed unless they are so relaxed that they can work in harmony without an extensor's antagonizing its flexor. When a child attempts to learn to speak with tense lips, tongue, and jaw, a speech defect of some kind is likely to develop.

Since muscular tension is at the root of most disorders of speech, parents should not induce any unnecessary tension in their children while speech habits are being acquired. The Habit Clinics are peculiarly adapted to helping parents to deal more intelligently with their children and to lessening that strain and resulting tension which develop other asocial habits besides defective speech. The social worker visits the child's home and prepares for the psychiatrist and the speech worker a detailed description of his home and neighborhood; his health, habits, personality, and play interests; the surrounding personalities, the relationships between members of the family, the reactions between the child and his social environment; and the nature of parental discipline and the child's reactions thereto. The psychiatrist talks separately with the child and with his mother, points out to the mother how, without realizing it, certain members of the family are keeping the child's nerves on edge and thus causing not only that tension which is directly responsible for the speech defect, but all other asocial tendencies which the mother wishes to correct. The psychiatrist explains to the child that he can overcome these bad habits if he tries and prescribes for the mother certain rules of mental hygiene which must be followed regularly if the child is to overcome these asocial habits. The speech worker shows the stutterer how to control his breath while speaking and how to speak more easily, and shows the lisper where to place the lips, tongue, and jaw in order to make correctly those sounds which he mispronounces. The psychiatrists, meanwhile, sees the mother and the child from time to time until the mother has so amended her attitude or her disciplinary methods that the tension in the child has largely disappeared. It will be seen at once that this mental hygiene approach is very different from the old method of attempting to remove the symptoms entirely by elocutionary methods, allowing the underlying cause of the difficulty to keep on acting. This new method removes the cause as well as the speech defect itself.

This new mental hygiene approach nowhere shows its efficiency better than in the correction of stuttering. It usually takes an adult more than a year to overcome stammering, and it necessitates an hour's conscientious drill daily on speech training exercises and the bother of thinking what one says and also *how* one says it at all times during the period of speech training. Compare the case of Charlie with that of his father, who overcame stammering only after the long hard fight just outlined. A severe stutter appeared in Charlie's speech at the age of two years and three months. Charlie's parents made a conscientious effort to keep Charlie from getting tense and to answer his questions in such a way as always to begin with the word on which he stuttered and to hold this unduly. They unduly prolonged all vowels, joined words very smoothly together, and took pains always to speak to the child in a calm, low-pitched voice. In one month Charle unconsciously adopted this new rhythm of speech and has not stammered since. Better still, he does not know that he ever had an impediment in his speech, hence he will never experience that awful fear or expectancy of stuttering which causes so many persons to keep on stuttering through life. This simple preventive method which works so admirably in the habit clinics seldom works in the schools, however, because the stutterer has by that time become so self-conscious about the impediment in his speech, and the habit has become so firmly established, that a systematic course in speech training becomes necessary.

Although most disorders of speech result from hypertonicity of the muscles concerned with speech, certain speech defects are brought on through muscular debility. Suture of a palatal cleft does not improve the child's speech because of debility of the muscles of the soft palate. Before speech defects caused by palatal defects can be corrected, the palatal muscles must be strengthened by appropriate exercises. As these muscles can be developed much more easily during the period when nature has intended speech to be acquired than later in life, many speech defects caused by palatal debility which cannot be corrected in the school clinic could have been quickly overcome in the pre-school child in the Habit Clinic.

A more common defect of speech that is caused by muscular debility is mutitas prolongata or delayed speech; the muscular debility in such cases seems to be quite general. The child is late in learning to walk and to use the muscles of the hand. He seems to have no desire whatever to learn conventional speech, being content to make his wants known through gestures. When a child of four has no speech whatever, his parents begin to fear he is feeble-minded, yet the performance tests given by the psychologist at the Habit Clinic shows that his mentality is little below normal. Parents tend to keep such children by themselves and to try to force them to speak by saying "say this, say that" until they develop either negativism or an inferiority complex. The speech worker and the psychiatrist explain to the mother that speech is to be hastened, rather, by patient waiting, by making a game out of speech, and by encouraging the child to play with other children, as these children imitate other children's speech long before they imitate the parents' speech.

The development of speech is bound up with behavior and personality. Speech has become such a ready mode of expression as to be considered the one most important personality trait. A defect of speech is often merely a symptom of a lack of good social adjustment. Whether induced by hypertonicity or by debility of the muscles concerned with speech, a disorder of speech should be corrected in the pre-school child before the child enters school, because the added strain of adjusting himself to school life is likely to aggravate both the speech defect and the other asocial tendencies.

LITERATURE FOR PARENTS ON HABIT TRAINING FOR CHILDREN

REVISED 1929

BY

Division of Mental Hygiene, Department of Mental Diseases.
Massachusetts Society for Mental Hygiene.
Community Health Association, Boston.

This is a simplified form of the former habit clinic leaflets that are being used to facilitate parental education among those whom it was felt were unable to utilize former leaflets.*

HABITS

We are not born with habits. They begin at birth and are learned by experience, training and education. Good habits are necessary for health, happiness and success.

Early in life the child thinks and feels in certain ways toward the simplest duties of his every day life, such as eating and sleeping. These ways of thinking, feeling and behaving gradually become habits which have much to do with the way he takes responsibility in later life.

Childhood is the best time to form good habits and correct bad ones because this is the time when the child imitates most readily and is most easily influenced.

Some bad habits that do not seem important may lead to serious difficulties It is not safe to trust that a bad habit will be outgrown. We should find the cause and remove it, and then train the child in the right habit.

THE PARENTS' PART IN THE CHILD'S LIFE

Parents have more influence on the child than anyone else. They are with him at the time when he is learning most quickly.

THE PARENTS' RESPONSIBILITY TO THE CHILD

Friendship

See your child as a person.
Be courteous and kind.
A child has feelings as well as grown-ups.
Let him share in the plans for the home.
Respect his confidence, his plans and his opinions.

Honesty

Prove to him that you keep your promises.
Let him find that he can go to you with questions and be sure of truthful answers.

Fair Play

Teach him to do his best.
Give him credit for what he does.
Give him credit for trying.
Try to understand the child before you blame him.

THINGS FOR PARENTS TO AVOID

Worrying

Don't let your child see you worry.
It slows his development. It prevents you from doing your best.

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*Distributed by the above mentioned organizations.

Babying

Don't baby him. It may give you pleasure but it stops him from growing up. He is never too young to learn. The sooner he learns to do for himself, the easier life will be for him.

Spoiling

Don't spoil him by giving him everything he wants. He can't have everything in life and the earlier he learns this the better. It will save him many disappointments.

Remember

A child is going to be pretty much what you make him. He is going to do the thing you expect. Therefore, expect him to do right.

Parents must agree on a plan and let the child see that they are carrying it out together.

OBEDIENCE

Children should be taught to obey that they may gain self-control. This will make them happier and more successful when they grow up.

Things to do

Give the child time to turn his attention from what he is doing and be sure that he hears you.

Make your commands clear and simple.

Say what you mean. Make clear whether you are commanding, asking or suggesting.

Mean what you say. Give only such commands as you can enforce and then enforce them.

Be ready at the proper time to talk things over and explain to the child the need of obedience.

Try to see the difference between willful disobedience and childish mistakes.

Things to avoid

Don't make disobedience attractive.

Don't bribe, threaten or scare.

Don't argue, boss or nag.

Don't talk to others about the child's disobedience when he is present.

Don't act like a child yourself.

Remember

A child's mind becomes confused.

By unnecessary commands.

By hasty commands that have to be changed.

By forbidding at one time what is allowed at another;

By blaming him for mistakes or for accidents that are not his fault.

Obedience has to be learned. When we fail to get obedience it is usually our fault and not the child's.

EATING HABITS

Good eating habits are necessary for health and happiness. Eating habits are formed at home and in early childhood. The person who fusses about food is likely to fuss about other things and one who fusses all the time is not liked.

Things to do

Let the child see that you eat what is put before you. Have meals at regular times. Make them pleasant parts of the daily program and nothing more.

Make food attractive and serve only a little at a time.

Expect the child to eat it.

Give him thirty minutes for his meal. If it is not eaten then take it away.

Have him understand that eating is his business.

Try new foods a little at a time and try them more than once.

Things to Avoid

Don't give him anything between meals.
Don't talk of his likes and his dislikes before him.
Don't allow others to talk of their likes and dislikes.
Don't talk about the child's poor appetite.
Don't compare his appetite with other children's.
Don't let him see that you worry about his eating.
Don't feed the child when he is old enough to feed himself.
Don't coax or threaten, or force him to eat.

Remember

It does not hurt a well child to miss a meal. Food fussiness is never inherited but is often imitated. The child's likes and dislikes depend upon you. Teach him to like the foods that are good for him.

TOILET HABITS

A child of two should have learned regular toilet habits. If he wets his bed or clothing often, it is for one of two reasons, sickness or habit. Have him examined to make sure that he is well. Then begin habit training. Every child has to be taught toilet habits. He cannot learn them without help.

Things to do

Make up your mind that the habit of wetting can be overcome.
Gain the child's interest in stopping it.
Tell him he is going to overcome it.
Make him understand that it is his business to cure himself, but that you will help him.
Follow these directions *regularly* and *faithfully*:
  Supper at a regular time.
  Nothing to eat or drink after supper.
Toilet at bed time.
  Awake him fully later in the evening, always at the same hour and have him go to the toilet.
  Further directions to be given by the doctor.
Give more time to training and less to making excuses.
Make much of every gain, however small it may be.
Look forward to success.

Things to avoid

Don't take the habit as something that cannot be corrected.
Don't make him feel he cannot help it.
Don't discourage him in any way.
Don't make the excuse of sickness when he is really well.
Don't make the child feel ashamed.
Don't talk about the habit to everyone.

Remember

Children like praise.
They are more sensitive to what you feel than to what you say.
They like to do what is expected of them. You will get about what you expect.
Expect the best.

THUMB-SUCKING

Thumb-sucking is a bad habit. It sometimes pushes the teeth out of place. It may interfere with digestion and cause loss of weight. It carries germs into the mouth. It shows that the child is not outgrowing babyhood.

Things to do

Be sure that the child is well and comfortable.
Stop the habit as soon as it appears.
Convince yourself that the habit can be stopped.

A very young child can understand that the habit is babyish and can be led to take an interest in curing himself.

Make use of his desire to grow up and of his love of praise.

See that the child has plenty of physical exercise and plenty to keep his hands busy.

If the habit persists, see a doctor who is interested in habit training.

Things to avoid

Don't let the baby suck his thumb because you think it is cute.

Don't let him do it to keep him quiet.

Don't make light of the habit or trust to his outgrowing it.

Don't think that the habit cannot be cured.

Don't nag or talk about it more than is necessary.

Don't expect a cure at once.

Remember

Thumb-sucking is not a thing to worry about. It is easily cured in the beginning. If neglected, it may lead to more serious things.

TEMPER SPELLS

There is always a reason for a child's temper-spell.

If he is not sick or tired, he shows temper to get his own way or to get attention.

When bad temper becomes a habit it interferes with success and happiness.

Things to do

Set a good example by controlling your own temper.

Keep the child well and give him plenty of rest and quiet.

Let him find that he never gains by a temper-spell.

Notice his bad temper as little as possible. This is one of the best ways to cure it.

Things to avoid

Don't excite the child by taking him into crowds or by keeping him up at night.

Don't bribe, scold or threaten.

Don't talk about his temper.

Don't laugh at his temper-spell or let him think it is funny.

Don't worry about what the neighbors think.

Don't let anyone tease the child to make him lose his temper.

Don't give him what he wants, while he is in a temper-spell.

Remember

If the child continues to have temper-spells it is because he gains something by them.

A well controlled temper is an important part of a good personality.

JEALOUSY

Jealousy is serious even in a child. It makes him unhappy, disagreeable and unable to get on with those about him. When he grows up it will interfere with his success as well as his happiness.

Things to do

Respect his property and his rights.

Teach him to share with others and respect their rights.

Let him know of plans for the new baby.

Let him help in the care of the baby.

Divide your attention fairly among all the children.

Things to avoid

Don't make favorites of any of the children.

Don't compare children with each other.

Don't tease a child by petting another and leaving him out.

Remember

A child is not born jealous.
Jealousy can be prevented or corrected by proper training.
A jealous person does not work or play well with others.

INTELLIGENCE

Children have different kinds of minds. Some are bright, others are backward some are quick but careless, others slow but sure, some make better use of their heads, others of their hands.

Things to do

Give him playmates of his own age and ability.
When the child asks for information answer him truthfully. Explain in words he can understand.
Read to him, tell him stories and encourage him to do the same.
Teach him to use his hands and his body as well as his head.
Encourage him to make things. Give him tools and materials and a place where he will not be disturbed.
Begin early to give him small responsibilities.
When possible let him make decisions and take the consequences.

Things to avoid

Don't show off a child in company.
Don't make fun of his reasoning.
Don't hurry a slow child.
Don't allow talk about a child's ability in his presence.
Don't compare children with each other.
Don't expect failure.

Remember

It takes a better mind to think and to do than merely to commit to memory.
The use one makes of his mind is more important than the kind of mind he has

REPORT OF THE ANNUAL MEETING, AMERICAN PSYCHOLOGICAL ASSOCIATION COLUMBIA UNIVERSITY, NEW YORK CITY

December 27, 28, 29, 1928

By Rose E. Hardwick, Ph. D.
Division of Mental Hygiene, Department of Mental Diseases.

Fully one-third of the eighteen sessions of this meeting bore upon clinical psychology and mental hygiene, and in these the emphasis was on the problems of childhood.

Mrs. Woolley, as chairman of the Round Table on clinical psychology, opened that discussion with a brief review of the historical development of the field. She noted two prevailing trends. One was towards the study of younger and younger subjects. Fifteen or twenty years ago it was felt that nothing very definite could be learned as to the mentality of an individual before he arrived at maturity, whereas now we are finding it possible to gauge the capacities of many children in the pre-school period, and methods and norms for the psychological study of infants under one year of age are already coming into use. The second significant trend she found in the increasing co-operation of clinical psychologists with workers in related fields. The regular team for clinic work now includes several specialists and makes frequent use, in consultant service, of many others.

Several clinics, operating in connection with nursery schools, reported the recent addition to the staff of a sociologist.

It was agreed that there is need of an educational expert in child guidance clinics, and it was remarked that in many instances the only effective approach to the problem was through someone already authenticated to the child and his parents in virtue of his position in the school system.

Other speakers stressed the need of broader training for psychologists and of educational work for the various specialists as well as for parents, teachers and the general public. It was felt that unless a high standard of team work was maintained there was a real danger lest, among many specialists, each dealing with only one aspect of the child's problem, the child himself might be overlooked.

Attention was drawn to the fact that the psychological examination is an individual affair and involves a roughly standardized situation from which the competent clinician extracts qualitative data whose significance, especially for prognosis, may be even greater than that of the numerical findings.

The Boston school authorities, recognizing the third grade as one of the danger points in the child's school career, are trying the experiment of gathering the brightest children of that grade, about one per cent of the whole group, into special classes where they have the opportunity to do three years' work in two years. Three such classes were in operation last year and this year there are seven.

Wallin said that a large proportion of the child problems should be handled by the schools, and that it is time to do away with the three year retardation requirement for admission to special classes inasmuch as many of the candidates for these classes are readily recognizable in the kindergarten.

Among the papers presented at other sessions the following were of special interest to clinicians.

Freeman of Chicago reported a study of fifty pairs of fraternal and fifty pairs of identical twins, and Gesell of Yale a study of a pair of infant twins, one of whom was conditioned while the other was used as a control. Gesell's paper dealt with the role of maturation as compared with training in modifying behavior patterns in infancy. Freeman's primary object was to compare the two types of twins with respect to their resemblance in various traits, his secondary purpose to compare inborn tendencies and environment as causal factors in the production or resemblances. He found a markedly greater resemblance between identical than between fraternal twins, but there was some indication of some traits being more responsive than others to environmental influence.

Other papers representing the genetic point of view were Guernsey's, dealing with eye-reflexes in infants, and Goodenough's, on the relative potency of form and color perception at various ages. Guernsey worked with 25 infants, from eight hours to six months of age, and presented observations as to increase in size of pupils, rapidity of pupillary expansion and contraction, unco-ordinated right-left movements of the eyes, blinking reflexes, and preferential sensory adaptation (turning head, eyes or whole body) to a light stimulus. The data so obtained were considered to support an empirical theory of space perception. Goodenough used 447 subjects, ranging from two years of age to adulthood. The preference was found to be for color from three to six years of age, and for form before three years and after six. This study was believed to show for the first time "the early predominance of form over color perception."

A scale was presented by Furfey, of the Department of Sociology, Catholic University, for the measurement of developmental age as that is indicated by "play interests, reading interests and attitudes to various ideas", and the conclusion was drawn that "developmental age depends upon physical factors rather than upon intelligence".

Arthur, of the Child Guidance Clinic of St. Paul, described A Point Performance Scale which has been standardized in two parallel forms and for children from five to fifteen years of age. It is intended for clinic use, generally in conjunction with the Binet scale, to confirm or to supplement the latter, and in some cases to afford a more favorable approach for the subject. In extreme cases it may be used as a substitute for the Binet scale when that is inapplicable because of unusual speech defect, deafness, or the like disability.

A study of memory span tests with over 3000 children of school age as subjects was presented by A. S. Starr as confirming the claim of such tests to be included in any battery of tests, and as bringing out the greater diagnostic value of the reverse span.

W. F. Dearborn reported on cases in which heterophoria, or imbalance of the eye muscles, appears to cause a transposition of letters or digits in reading, without affecting the orientation. This effect may be produced by a degree of imbalance which the ophthalmologists regard as "within normal limits." The symptoms are similar to those of cases in which manual or visual dominance has not been established, they are consistent with Orton's cerebral hypothesis and they may be described by the term "strephosymbolia" which he has suggested to replace the term congenital word-blindness.

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BY

GEORGE M. KLINE, M. D.
DOUGLAS A. THOM, M. D.
GEORGE L. WALLACE, M. D.

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THE IMPORTANCE OF DUE CONSIDERATION OF THE RELATIVES OF OUR MENTAL PATIENTS IN STATE INSTITUTIONS

By C. A. Bonner, M. D., Superintendent Danvers State Hospital

The literature of psychiatry may be divided roughly into two large classes. First, the study of clinical and pathological material, and secondly, the study of the technique of administration. In the first group the personal relationship between the patient and physician is fairly well established. This is in reference to actual ward work. In the second group but little has been written on the personal aspects of administration which deal with the reception and care of visitors. The purpose of this paper is to stimulate interest in this phase of hospital organization. We know that interest does exist and yet the written record of it is almost non-existent. In the New York State Hospital Quarterly, November, 1921, Dr. William C. Garvin, Superintendent of Kings Park State Hospital, prepared for publication a very interesting article on the attitude of State Hospitals toward relatives and friends of patients. These are the only references that have passed my attention dealing with this particular subject.

Modern state hospital care has reached a stage of considerable efficiency in producing physical comfort for the patient. This includes sanitary surroundings, proper food, kindly nursing, extensive therapy, and even recreational pursuits under trained workers. All of these have but one aim, to relieve mental discomfort and to restore the mental health of the occupants. The relatives, however, ofttimes have a very poor conception of mental disease and methods of treatment and frequently it is difficult for the physician to explain cause, course and treatment in the case at hand. Thus, the relative faces uncertainties which are likely to produce emotional stress. This fact must be recognized in our dealing with them and help us to take a sympathetic attitude in their viewpoint. The patient upon admission is relieved of all environmental influences which may have had to do with the onset of his mental difficulty. He is immediately given attention from physicians and nurses and every effort is directed to make him comfortable. But oftentimes the mental state of the relative is far from a happy one. Their conception of treatment in a state institution is apt to be entirely incorrect. It may be based on hearsay or from startling and sensational newspaper reports. It is not uncommon to meet them in a state of the utmost despair. It is this feeling of the uninformed that make it necessary to educate relatives and the public in the true operation of our mental hospitals. Mental Hygiene has initiated a noble work in removing the mystery associated with mental diseases, but it is still necessary for institutional authorities to continue a propaganda which will give the true picture of the policies and treatment rendered those patients entrusted to us.

The reputation and value of any hospital depends upon two fundamental factors: the type of medical and nursing care performed within its walls, and from this work the standing it has achieved in the community that it serves. The first factor has to do with personnel and equipment, which includes everything that pertains to the welfare of the patient. The second factor depends on the manner in which information regarding this work is imparted to visitors. And it is with this point that we are particularly interested. How can we procure a satisfactory spirit of understanding between visitors and the staffs of our mental hospitals? The problem is common to each institution. In the final analysis the answer seems to be in the careful training of the physician to respect and understand the value of each personal interview. At the same time we should keep in mind that we are striving to obtain the confidence of the visitor in ourselves and in the work done by the hospital. The confidence of the individual visitor obtained by conscientious effort eventually means the confidence of the community.

In particular relation to the subject at hand, the Worcester State Hospital has inaugurated an interesting experiment. A monthly meeting has been held at the hospital to which relatives are invited. At this meeting members of the staff have explained the actual duties of the different departments, and the difficulties met by relatives are considered at open session. This provides an unusual opportunity to bring forth those conditions which are found to be unsatisfactory to the relative in the dealings with the institution. This movement is regarded as very successful from the standpoint of uniting the work of the hospital more closely with the community.

First impressions gained by a visitor to a hospital are exceedingly important. If he receives a kindly reception, secures a reasonably prompt interview with the physician, and is given satisfaction in this interview, he is apt to be of favorable opinion and perhaps becomes a lasting friend. Therefore, it is obvious that much depends on the usher who makes the first contact. If her manner is congenial and she endeavors to promptly locate the physician, the first step has been successfully taken. On the other hand, delays or discourtesies at this point are very dangerous. The usher has the power to send the relative to the physician in a calm, satisfied frame of mind, or extremely irritated, thus adding greatly to the physician's burden. A cheerful, intelligent usher is a valuable asset to the hospital. This type of person can often save the physician's time by imparting certain routine information that is requested. There should be office arrangements which will give privacy to the more important interviews.

The manner in which the physician meets the visitor is worthy of comment. If he is unfriendly in the beginning the interview is not likely to be successful. Relatives are met in various mental states ranging from anxiety to anger. Some are critical, while others are in a suspicious frame of mind. These attitudes offer fine mental hygiene opportunities. The doctor must quickly estimate the person with whom he is talking, understand all phases of the situation, and then proceed to the interview with the determination to maintain at all costs the virtues of patience, kindliness and self-control. One should deplore the possibility of irritation and temper. The interviewing of relatives is an arduous task or a pleasing art depending largely on the physician. The further obligation of the physician is to know exactly what he is discussing and not to resort to evasion of any kind, The best general plan of describing mental states is to express them in simple terms. avoiding the use of such psychiatric terms as are likely to be unfamiliar to the relative.

How can the new staff member unskilled in mental diseases best be given a working knowledge in dealing with relatives? The new physician, lacking experience in this important matter, is most apt to injure the hospital. He should first be taught that every relative must be given the same consideration as if entering his private office in general practice. It is also necessary to point out the value to the hospital of physican-relative contacts; but above all a senior officer should be present to observe vigilance in detecting and correcting any trouble which may occur with visitors. There is probably no experience of more value to the young physician than that of adjusting himself skillfully to other persons. No profession has to have a greater refinement of contact so well developed as the physician if he hopes to be successful. It matters not whether it is in general practice or in institutional psychiatry. The physician should never allow relatives to leave the hospital in a spirit of dissatisfaction if this can be avoided. A troublesome condition should be referred to the senior officer so that everything possible is done to check misunderstandings before they become real difficulties.

The foreigner who does not understand English should be given special consideration. This may mean the need of securing an interpreter. Misunderstandings often occur in dealing with those who do not probably understand what is said to them.

We can learn a lesson from the business world in this whole matter. Business is conducted almost wholly on lines of service. The success of the bank, office, industrial concern, is built on courtesy. The employees of a state hospital must be carefully impressed with the necessity of courteous service.

* Courtesy, in the final analysis, is the all-important factor. It is little more than consideration for others, calling for a certain amount of self-control and a small portion of sacrifice, yet the sacrifice entailed usually is repaid many-fold by the response to a courteous act. It applies mainly to the little things. It is not a question of life or death, nor of wealth or poverty. It usually takes but a little time, effort and kindly forethought, yet it may mean the saving of much inconvenience for someone else.

THE RELATION OF THE MENTAL HOSPITAL TO THE COMMUNITY

By Edgar C. Yerbury, M. D., Assistant Superintendent Danvers State Hospital

Child Guidance Clinics for the Pre-School Child: In the present day, when increasing demands are being constantly made by the community for more information that will assist in the establishment of the right states of mind and mental habits, the Mental Hospitals and members of its staffs are gradually coming into the foreground, as more demands are being made upon them for psychiatric advice.

In various localities, principally in the larger cities, Habit Clinics are now being conducted for the purpose of better understanding human behavior and eliminating vicious faults or habits that are formed in children. Before we can understand human behavior, it is needless to say that we must not only carefully study the child in terms of the individual's physical and mental equipment, his environment, and his general reaction to his every day problems, but we must even go farther back than that in order to gain some knowledge of his ancestors because of the many instinctive and emotional characteristics which might be inherited. While thorough investigation is made of each individual child, I believe we are still struggling along hopelessly in some cases because of not getting at the real source of the trouble; namely, the parents. In so many cases how often do we find ourselves confronted with a problem that we are unable to solve and all because the child has not had the right start due to the lack of intelligent understanding on the part of the father or mother. We know that a child reacts to the fundamental problems of life from an early age; but if his manner of reacting is abnormal and not recognized by the parents, how can we expect to satisfactorily establish correct habits if the parents are not intelligent enough, because of lack of training, to recognize and correct these. How can such a problem ever be solved if we cannot first train the parents? In a paltry way the Department of Education by means of the University Extension Classes is assisting nurses, teachers and parents to better understand right states of mind and mental habits. There is still a great deal left that should be taught to the parents and I believe that Parent Guidance Clinics would aid us in solving the problem. To illustrate the necessity of some such clinic let us take, for example, the following case:

A boy of ten years of age was brought to the Habit Clinic presenting the following problems: retardation in school work, unmanageable at home, truancy, ungovernable temper, fear of the dark and staying out late at night. On reviewing the case with the boy, he, himself, recognized the fact that he could not learn as easily as others, although he felt that he had put forth his best effort. He felt that he had done no wrong in staying out late at night, giving as an excuse that the other boys did likewise.

The mother, who brought the patient into the clinic, was a tired appearing woman and displayed some emotional instability when speaking of the patient. She was distressed over the fact that the father did not take any interest in his step-children would in no way ever correct any of them. Following a severe operation the her had a "nervous breakdown" and since that time has been ailing.

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* Atlanta Medical Journal, 1927.

he father had always been a hard working man and was steadily employed on railroad. He occasionally drank to excess at which times there was great dis- l in the family. He was jealous of one of the step-sons because the mother red him. He accused the mother of abusing the patient because he was not right as the other children.

he patient had a quick temper, displaying it whenever he wanted his own way. swore when angry and lied imaginatively and to avoid punishment. He would o errands without being paid by his mother, who followed the line of least stance and humored him. The boys with whom he associated were rough and in constant difficulty with the police and on one or two occasions the patient reprimanded by the police for fighting.

carefully analyzing this case the causes for most of his problems can be ily traced back to the lack of intelligent understanding and co-operation on part of the mother as well as the lack of interest on the part of the father. use of the fact that the patient was of borderline mentality, his scholastic was retarded. This not being known to his parents or school authorities, he been forced to attend school, even though he was incompetent. As a result egan to play truant, for he knew he could not keep up with his class. When d about his attendance he lied about it for fear of punishment. His habit of ing demands upon his mother increased, for she usually gave in to him to avoid having a tantrum. He soon did things without asking permission and as ing was ever said to him, he would stay out to a late hour. When reprimanded his he would fly into a rage, swear and kick at his mother. While we have ed him in several of his problems by having him report regularly to the clinic, till makes many unreasonable demands because he knows his mother will not se them. If the mother had had training in mental hygiene before marriage no doubt, would have been better prepared to deal with problems that her presented from time to time, instead of letting things go until they became so critical.

ychiatric School Clinic: Another way in which the Mental Hospital is an asset e community is by means of the Psychiatric School Clinics. These clinics organized under the Department of Mental Diseases in 1916 when a very few were referred and examined by a trained psychiatrist attached to the Staff mental hospital. During the past thirteen years there has been considerable ress made until at the present time over 6,000 retarded children are examined ally. The scope of this type of clinic is even broader today than one year Not only are the retarded children being referred and examined, but many r cases presenting difficult problems and vicious habits are being carefully ied with the hope of correcting any maladjustment. Besides the comprehen- examination that is conducted, the parents are invited to the schools for an view with the psychiatrist who, in turn, has an opportunity of studying at one of the parents by personal interview and observation. In frankly dis- ng the child with his parent, it gives the parent a more complete understanding s mental make-up, and thereby adds another boost for the noble work of the tal Hygienist. One outstanding case may be reported to show how difficult lems may be solved by means of a personal interview with the parent:

boy of twelve was examined at the Psychiatric School Clinic and found to be ded in his scholarship, due no doubt to the fact that he was feeble-minded. was reported to the Superintendent of Schools who advised that the patient ld not have been examined without his mother's consent, because she had ys been a trouble maker to the school authorities, especially since an older son been examined two years previously. A personal interview was then requested the mother appeared on the scene.

first she appeared indignant to think that the school authorities had assumed uch in having her boy examined. The boy's case was then carefully discussed the mother and certain recommendations made regarding his future educa- The purpose of the School Clinic was explained in detail and the mother finally won over to see the great necessity and advantages of such examina- . She finally stated that if she had been given a personal interview when her older son had been examined, she would have been able to better unders the situation and assist him at home.

Mental Hygiene Clinics for Hospital Cases on Visit: The responsibility of mental hospital in the treatment and care of mental patients is a big one, but greater does the responsibility become when the mental hospital takes upon i the readjustment in the home and community of convalescent patients. It i easy matter to say that a mentally sick person has recovered and should re home, but it is still another story for the patient to make as nearly a perfect r justment as possible.

While the community has a little more insight into mental hygiene and me cases, there is still a great deal of educational work to be done before people better realize that there is no stigma in having been a patient in a mental hosp

There are many factors that must be considered in establishing a readjustn of the patient and these can only be overcome by carefully laid out plans b competent and trained social worker, who has the opportunity of going into home, making a study of existing difficult situations and advising as to how t may best be altered to make it a little easier for the sensitive type of person which characterizes a great many of our convalescent patients.

Careful extra-mural work is then necessary in order to assist these sensitive i viduals in re-establishing themselves and helping them to better understand transitory symptoms that may from time to time arise. This work is carried by means of regular Out-Patient Clinics held at regular intervals in various lo ties, at which convalescent patients are required to report. It is because of t clinical conferences that many ex-patients are able to ward off future impen attacks of mental illness and thereby remain out of the Hospital.

Mental Hygiene Clinics for Adults: The latest move on the part of the me hospital of establishing Mental Hygiene Clinics for adults is a step forwar mental hygiene. It is not intended that the mental hospital compete with physician specializing in psychiatry, but to be of aid and assistance to cert individuals who need much more intensive study than can be given by one i vidual. Because of the close relationship between the mental and physical pha it will be necessary to study both of these factors from all angles and will nece tate the co-operation of various specialized medical clinics as well as a careful st of social factors, personal history and occupational history which might be poss entities in the etiology of mental disease. While it is yet too soon to see resu we are looking forward to the future with the hope that more cases may rece advice and treatment through these clinics, and thereby readjust themselves their community environment without needing segregation in institutions.

Practical Application of Mental Hygiene: In the establishment of univers extension courses in the Practical Application of mental hygiene sponsored by Department of Education, another great step has been accomplished. Th courses are given in various communities by men trained in special psychia work. They deal in a practical way with common traits and normal habits fo in human beings from infancy to senility. They are given primarily for nurs teachers, parents and all those interested in learning some of the fundament regarding mental health. These lectures are given in a way that they mi readily be understood and interpreted by the laity, thus adding another stone the foundation. It has been stated that the only practical and effective way increase the mental health of a nation is through its school system, but I beli that our work is not complete should we omit the several other avenues of appro that have been herewith discussed.

PSYCHIATRY: ITS RELATION TO GENERAL MEDICINE

By H. L. Clow, M. D., Danvers State Hospital

The remarkable advancement made in diagnosis in Internal Medicine, throu the elaborate apparatus brought to the hands of the physician, has revolutioni medical practice in the past twenty years. No longer is it necessary for the pr titioner to use the four senses as it was in his father's generation.

This is the age of Specialism, and machine-made diagnoses. The perplexi problem which may occasionally present itself to the small town doctor for sol tion may be easily disposed of by referring to the nearest Diagnostic Clinic in any one of our large cities. Within a few days after the return of the patient, a statement of sphygmomanometer reading, Basal metabolism rate, X-ray shadows, urinary salts and the amount of blood sugar present, will follow, on which the diagnosis of carcinoma of the gall bladder is based. Had the usually well qualified country practitioner taken the time to become acquainted with his patient, who has recently passed the half century point, and had observed his emotional reaction, the depression extending over a period of several months, and had he even suspected that his abdominal symptoms might be founded on a delusional basis, the poor sufferer and his family might have been spared considerable expense and mental anguish, and he himself would not have waited to see the man emerge from the melancholic state over two years later, before arriving at the correct diagnosis of Involution Melancholia.

The attitude of the internist has been to limit his interest to the province which we understand as physical. This has had its effect in separating him from his brother in psychiatry.

The psychiatrist must study the entire man. He has long been aware that the psyche and soma may not be separated. The perfect animal represents perfect interplay of all its parts. This means a successful adjustment to the environment in which one finds himself. The psyche may be described briefly as a combination of the instincts, emotions and behavior of the individual.

Self preservation is one of the strongest instincts, possessed by all living animals, animated or stimulated from within, and not a factor of intelligence. The same may be said regarding fear, which is an emotional reaction to impending danger, experienced by everyone at one time or another. An element of fear is present in every physical disease. The conduct of an individual in his environment, which is influenced by his instincts and emotions and the acts of others with whom he comes in contact, constitutes behavior.

The state of mind of an individual depends on that person's emotional equipment, which is inherited or determined by experience. Every one possesses an emotional force which affects the physiologic processes or functions in the body, not responsive to conscious thinking, and is usually beneath the level of consciousness. It is generally known that such emotions as fear, anger and worry may affect the digestion, heart rate and action of the bowels, and cause various somatic sensations.

It has been said that the well regulated mind maintains the body in perfect health. This statement cannot be accepted as being true, only insofar as functional processes are concerned. It cannot be denied that a disturbance in the emotional field, a waste of emotional energy through a faulty physiologic expression of stimuli, will eventually bring about evidence of physical disorder. The many cases classed as Dementia Praecox, bear testimony to this fact, with the symptoms of emaciation, vasomotor disturbances, dry mouth and coated tongue, fever and catatonic stupor.

There is a psychic disturbance in every somatic disease, depending on the person. The internist has long been unmindful of this fact, or if he has observed it, has disregarded it as of little or no importance.

Endocrinologists have long speculated on and have made intensive study of the endocrine glands, or glands of internal secretion, and their relationship to changes in the individual. Glandular activity is determined by the sympathetic nervous system. Is it not conceivable that the function of the sympathetic nervous system is under the direct control of that part of the psyche designated as the emotional field? It is difficult to comprehend any part of the soma as being entirely beyond the influence of some part of the psyche.

That large group of cases which falls into the class of Neuroses comprises a large part of every physician's practice. They are functional in nature, and are characterized by one outstanding symptom, fear. The study and understanding of fear, alone, is of value to the internist who would be successful in the healing art, and who has a real interest in the patient as well as the disease. It cannot be denied that successful medicine extends equally to mind and body. It has been truthfully said of our forefathers that whatever they lacked in knowledge of disease they compensated for in their understanding of the man.

The Neuroses may simulate in their varied manifestations almost any somatic disease. This effect is brought about through fear and anxiety, and the resulting disturbed bodily functions of the heart, gastrointestinal tract, sexual organs, etc., are accompanied by the common symptoms of headache, fatigue, muscular pain and constipation. Mental disturbances frequently cause cardiac disorder, but it is doubtful if they are ever responsible for organic change.

The psychiatrist must be interested in a total view of all the symptoms presented by the patient, being well aware that great changes take place in bodily functions of mentally sick individuals. He realizes his limitations in estimating somatic conditions as to cause and effect, although he has at his command and makes use of the same mechanical contrivances as does his brother in medicine. The following case illustrates well this point, and one not unusual as a problem for the psychiatrist to solve:

M. C. Married. Age 39. Adm. February 25. Died March 4.

F. H. Negative.

P. H. Completed college in 1911. Married in 1921. Married life happy. Two children, ages 5 years and 5 months. No miscarriages. Influenza 9 years ago. Operation for gallstones and appendicitis 1 year ago. Tonsils removed 4 years ago. Chicken pox 4 months ago. No other illness.

P. I. Following the chicken pox, at which time both children had the disease, patient complained of feeling tired, easily became exhausted and lacked ambition. She worried when the children were sick, lost her appetite, and was troubled with insomnia. About one month before admission to the hospital, she became very depressed, and cried frequently. During the two weeks previous to admission, she was in bed under the care of a nurse. There was slight fever during this period. The first mental symptoms were noted at this time. She had a fear that she would lose the children. She was frightened at night, screamed, and it was stated that she "saw things." She labored under the delusion that she had put her baby in the furnace. She failed to identify relatives. Her limbs became rigid.

On admission to the hospital, she was mute, there was cerea flexibilitas and rigidity, which was generalized. The eyes were held open, and stared straight ahead. Mouth was dry and tongue covered with a heavy brown coat. Skin moist. There was lack of sphincter control. She was spoon fed. Pupils dilated. L. larger than R. Hippus present. No response when spoken to. Reflexes increased. Heart and lungs neg. B. P. 140–125. Urine—Alb. S. P. T. Otherwise neg. Wassermann neg. Temp. normal first two days in hospital. Third day it was 100.8 Fourth day normal. Fifth day, 100.6. 99.2 to 102.8 on sixth and 102 to 103.6 on seventh day. 104 A. M. and a gradual rise to 107.4 at 4 P. M., the eighth day (day of death). Pulse ranged from 86 to 124. Resp. 20 to 26 first four days and 32 to 38 the last four days. W. B. C. Feb. 27, 12,200. R. B. C. 4,640,000. Hb. 75. Polys. 77%. Lymph. (large, 4%; small, 19%). Feb. 28, W. B. C. 10,110. March 4, W. B. C. 11,000. Vaginal smear neg. Spinal fluid, Globulin V. S. R. Total protein 50 mg. per 100 cc. Mastic neg. Gold sol. neg. No meningococci seen. Abdomen rigid from day of admission.

Post Mortem.

Pupils equal. 5 cm. No lymph nodes felt. No evidence of peritonitis. Oedema of brain. Hypostatic pneumonia. Excess of cerebro spinal fluid. (Large amt. of C. S. F. was removed, under great pressure 3 hrs. before death). Pressure ring about medulla. Fibrin on superior surface of cerebellum.

Discussion: The difficulties in arriving at an exact diagnosis in this case are apparent. Encephalitis cannot be positively ruled out. The onset, with symptoms of insomnia, hallucinations and episodes of excitement are not typical, however. The change from excitement to stupor, with cerea flexibilitas, rigidity and increased but equal reflexes, suggest a Dementia Praecox, catatonic type. It is not unusual to see a very high terminal fever in cases of this type, in which the symptoms have existed sufficiently long that there can be no question as to the diagnosis. The hypostatic pneumonia was undoubtedly terminal.

All physicians are more or less familiar with the mental disorders which accompany the organic diseases, syphilis, arteriosclerosis, and the changes incident to senility. The delirium present in the infectious-toxic conditions is well known to all.

The less commonly encountered psychotic symptoms in Pernicious Anaemia, such as depression, mania and dementia should not present any difficulty in determining the etiology, as an examination of the blood will indicate the diagnosis. Hypopituitarism may present certain abnormal behavior disorders, which may give considerable difficulty in recognition. There are many less understood physical disorders in which mental symptoms may be present.

Since we cannot be otherwise but convinced that the psyche and soma and their diseases bear a close relationship to each other, is it not desirable that the internist and the psychiatrist meet on common ground, and with their combined knowledge and experience endeavor to solve some of the mysteries of existence?

Summary.

The practice of medicine has been revolutionized by the many mechanical contrivances brought to the attention of the physician.

The internist should extend his interest to that part of the individual known as the psyche.

The psyche and soma may not be separated.

A psychic disturbance may cause functional symptoms simulating organic disease.

Successful medicine extends equally to mind and body.

The psychiatrist must study the entire man in arriving at a diagnosis.

The internist and psychiatrist should combine in their efforts to solve some of the problems presented.

THE RELATIONSHIP OF MENTAL HYGIENE TO MENTAL DISEASE

By Dupre M. Hall., M. D., Danvers State Hospital

That there is a relationship between mental hygiene and mental disease is quite evident to all who have given the matter due study. But just how close and important this relationship is, many of us doubtless have never paused to consider. That it is of vital interest to the country that the public be taught to realize this connection is becoming more apparent each year. And the teaching of mental hygiene is the method by which we hope to bring this matter to the public with all due emphasis.

Mental Hygiene is not new. Down through the centuries the mothers of the human race have striven to guide their children in the way they should go, each according to her understanding. This understanding was quite limited and their teachings very inadequate when viewed by the light of our present day knowledge of mental hygiene. Children were enjoined to obey the ten commandments and the Golden Rule. Good boys were just good boys and bad boys were punished without inquiring very deeply into the question of what made them bad. Timid children, bashful children, unruly children, or nervous children were thought to have inherited these qualities from their parents or to have been born that way, just as some children are unfortunate enough to be born without the average amount of gray matter. A child who did not know its lessons was kept in after school and bad children were thrashed either by teacher or parents. It never occurred to their elders that these failures might be corrected in any other way. If the parents of timid, pampered or unruly children had been told that these undesirable qualities might eventually lead to insanity, they would have been highly indignant. Nor were physicians of that day more enlightened.

It has not been so very long ago that the insane were thought to be possessed of devils, and terrible tortures were inflicted upon these unfortunates to exorcise these evil spirits. They were kept in "mad houses," loaded with chains, and lived in filth and misery. Then slowly the conception of insanity changed and physicians began to realize it was not caused by evil spirits but was a disease of the mind. Conditions in insane asylums began to improve and gradually these institutions evolved into the modern State Hospital, where hydrotherapy, occupational therapy and wholesome amusements took the place of mechanical restraint and tortures.

With the recognition of insanity as a mental disorder, came curative efforts. Numerous remedies were tried with but indifferent success. It was then learned that some cases of insanity had a physical basis and that in these curative agents were most frequently successful or improving.

But there remained a large number of cases where no physical basis of the mental disorder was discoverable. Curative measures here were markedly unsuccessful. Investigators then turned their attention to finding the causes of these cases. The Manic Depressive and Dementia Praecox groups were the subjects of an intensive study. In some cases excited causes were evident, in others there were none apparent. Then the question arose: Why is it that if two people are subjected to emotional strains of the same intensity, one may develop a psychosis and the other not? The answer was that there must be a predisposition. Then the theory arose that this predisposition was inherited. This theory held for some time; but, as more and better statistics were compiled, it was found that this view did not hold true. In a majority of cases this predisposition could not be traced. Insanity was often found to occur in families where ancestors for generations had been mentally normal. So investigators were compelled to seek further for a solution of the mystery. The alarming increase in the population in state and private mental institutions, due largely to the increasing complexity and stress and strain of modern civilization, rendered the question more acute and accelerated the search.

A careful, painstaking examination of statistics revealed that in a great number of cases of affective mental disorders unwholesome physical or mental environmental conditions were present. And further researches substantiated these facts. Unhygienic home conditions, family discord, improper child training, maladjustments and a host of other evils were found. With this discovery, investigators felt they were at last making substantial progress. The next step was to correct these evils. But it was soon seen that fixed habits, and ideas were hard to eradicate. Then slowly there dawned upon them the truth of the old adage "As the twig is bent, so is the tree inclined." They realized they must go far back, to the beginning of life, must devote their energies to bending the flexible twig rather than attempting to straighten the rigid tree. Parents and teachers must be taught how to train children, to recognize unwholesome habits and tendencies, to realize the importance of correcting these and to appreciate their possibilities as predisposing factors in the production of mental diseases later in life. And upon this rock of truth is being built the Temple of Modern Mental Hygiene. If we are ever to lessen the enormous burden of taxation upon the Commonwealth yearly demanded for the care of the mentally afflicted, to stem the ever rising tide of insanity, and, what is vastly more important, to increase the number of happy, useful citizens and lessen the heartaches in thousands of unhappy homes, it must be accomplished by measures in the field of prevention rather than that of cure. For it is now generally acknowledged by psychiatrists that defective child training is often the predominating factor in the development of mental disease later in life.

For example: Here is a pampered, petted child. The parents give in to him on all occasions, humoring all his whims and constantly reciting to friends in the child's presence, his many wonderful qualities. The child, hearing himself so highly extolled, develops an exaggerated opinion of his own virtues, a dominating disposition and undisciplined conduct. When he starts to school he meets opposition and competition. It is a new experience to him and he resents it. He resents school discipline, the opposition of his playmates and the competition of his fellow students. He may adjust himself to these new and unpleasant experiences, or he may not. If he does not, then his troubles begin. He has been accustomed to having his own way in everything and has come to believe that he has an inalienable right to dominate things, and to believe that he can do no wrong. His parents have taught him to think that he is the brightest and cutest boy that ever lived and therefore entitled to the best of all things. Then, when he cannot have his own way in school, when his playmates will not yield to his wishes and opinions, when he meets his fellow students in competition that so dims his brilliancy that he can no longer bask in the spotlight of admiration which he craves

d has been fed upon, he rebels at what he has been taught to believe is an inva-
n of his just rights. This rebellion brings him punishment. Believing, as he
es, that he can do no wrong, it naturally follows that the only explanation he
s is that his teachers and companions *must* be wrong. As a result, he harbors a
ling of resentment and fills the ears of his doting, unwise parents with tales of
treatment by his fellow students and favoritism by his teachers.

Finding the situation so very unpleasant he finally quits school and gets a posi-
n. He is alive with ambition and enthusiasm. He expects to advance with
rtling rapidity. But, alas, his progress up the ladder of success is discouragingly
w. Why? To his mind the explanation is quite clear. His employers are too
pid to recognize his superior qualities. Or, perhaps some fellow employee is
omoted over his head. That is certainly rank favoritism. He tries another and
other position, always with the same results. The whole world seems to be
nded together to crush him. Why is he thus persecuted? Evidently it is be-
use others recognize his superior qualities and are jealous of him. These enemies,
obtain their ends, then begin to scheme against him in an underhanded way.
he is a Protestant, the Catholics are evidently at the bottom of it; if a Catholic,
must be the Masons. Or, perhaps it is some labor union, a small group of
ople, or maybe one person. People look at him in a peculiar manner, he hears
em making remarks that he is quite sure refer to him, and, being enemies, these
marks are naturally very uncomplimentary. They call him vile names or accuse
m of disreputable things. The man walking behind him is surely a spy, watching
s movements. Thus persecuted and thwarted at every turn, his ambitions and
ngings seek an easier way. And he turns to day dreaming. Here he is safe from
ese persecutors. They cannot hamper him. In these dreams he overcomes
opposition, conquers all his enemies and mounts to the topmost rung of the
dder of fame and fortune. In order to give these fancies full play, and to avoid
terruption, he draws away from the harsh, external world of reality, gives up his
ends and amusements and retires to the solitary seclusion of his room. These
lusions become fixed and impervious to argument or conflicting evidences of their
sity. And here we have a fully developed case of mental disease.

This outline of the development of a mental disorder has been given to illustrate
re forcibly the connection between mental hygiene and mental disease. Had
is boy been taught to control his emotions, to restrain his impulses, to estimate
nself at his true value, to learn the lesson of give and take and to recognize the
hts and opinions of others, he would doubtless have avoided these maladjust-
nts, and developed a strength of character that would have prevented his mind
ing wrecked upon the rocks of disappointment and thwarted ambition. And
o is to blame? Certainly not the boy. He ran true to his teachings. And
odern Mental Hygiene, recognizing the dangers of faulty early training, seeks to
ch parents, teachers and all others who wish to learn, the best known ways of
eserving mental health, building character, preventing maladjustments, increas-
the number of happy, useful citizens and decreasing the number of unfortunates
o spend their lives in mental institutions. And unquestionably present day
orers in the field of Mental Hygiene will in the coming years reap their just
vard in a bountiful harvest of youthful minds rescued from the impending disaster
Insanity.

PSYCHOMETRIC TESTS IN STATE HOSPITALS

By Grace H. Kent, Ph. D., Danvers State Hospital

1. *Introductory Statement.*

The standardized test affords an exceedingly convenient means of making a
gh estimate of a patient's mentality. The psychiatrist naturally wishes to
w as much as possible about the mental capacity of the patient whom he is
dying, and the psychologist has come forward with an offer to furnish the de-
d information at wholesale rates. Because of the convenience of the standard
t, there is a tendency to use it a little too freely. The primary purpose of this
er is to call attention to the sources of error involved in the acceptance of test
ings.

Without going so far as to assume that our tests furnish an adequate measure of native intelligence—a claim that can hardly be supported except by defi intelligence as that which is measured by the tests—it is still safe to assume those faculties or aptitudes which are measured by tests are frequently of s significance in the diagnosis of state hospital patients. A very high rating well-balanced test may offer sufficient ground for excluding mental deficiency; a low rating cannot be accepted so unreservedly as indicating mental deficie because it may be due either to mental deterioration or to imperfect co-opera on the part of the subject.

2. Serviceability and Limitations of Tests.

Among the patients examined by the writer at Danvers State Hospital du the past six months, the following two cases are selected as illustrating first usefulness of the psychological examination as conducted in this institution, secondly the danger that the findings may be wholly misleading.

Case I. A girl of 18, student. Although a person of borderline mentality the type known as "verbalist," she had been passed along in school up to the se year of high school. Having a good vocabulary and excellent poise, she was to make a very creditable showing in conversation. At the time of the exam tion she had recovered from the mild psychosis for which she was brought to hospital, so she appeared at her best. She was expecting, after graduation f high school, to enter a hospital for training as a nurse. No one here could h said, without the aid of standardized tests, that she was not qualified for vocation. Mental deficiency was not suspected and it was only because of her that she was referred to the psychological department at all, it being a rou measure for all youthful patients admitted to the hospital to be observed in department. The results of the test showed a surprisingly low rating, and this reason a second examination was made. In order to make the study pra cally exhaustive, the patient was given all the tests commonly used in the hospi including thirteen independent language tests. In only two of these tests—b depending essentially upon vocabulary—did she achieve a rating above ele years. The ratings ran as low as eight years, the median being eleven and average slightly under eleven. All through the examination she had the s satisfied air of a child who appreciates an opportunity to show what he can She was in her element, and showed not a trace of diffidence. In performa tests she was notably weak, but did not appear to be aware of it. We consi it fortunate for this girl that her high school course was interrupted, even b psychotic episode. She has been diverted from her plan of attempting a nur training, an undertaking which would almost certainly have resulted in fail At the present time she is working in a Five and Ten Cent Store, where her amaz self-confidence is at a premium.

Case II. A woman of 31, examined somewhat hastily without reference to case history. Her responses to the simplest questions were pitifully inadequa and she appeared to be greatly troubled because of her inability to answer. hesitated over each question, but responded to encouragement and appeared be doing as well as she could. When requested to read from a printed page looked at it very closely and occasionally moved her lips slightly, but did pronounce a single word that could be understood. (This reaction is quite ch acteristic of a child who has been in school several years without having lear to read. Often such a child will make all possible effort to spell out the wor persisting for an indefinite time rather than acknowledge his inability to rea In no part of the examination did this patient show the unexpected flashes of inte gence that one frequently observes in a case of advanced mental deterioration the record showed no "scattering." The results were summarized in the follow note:

Patient achieved a seven-year rating in the Binet test and also in the Kent Po Scale. Her achievement in performance tests was on the five-year level. work throughout the examination was uniformly low, and there is little ground questioning the validity of the findings.

It was learned subsequently, however, that this patient was profoundly p occupied with certain self-accusatory delusions and with remorse for certain del quencies that were not delusional. The distress which she manifested during t examination was probably not at all related to her failure to answer the test questions. She acknowledged later that she could have done better, but "did not feel like answering questions." Although her appearance of giving the best co-operation of which she was capable was such as to deceive a highly experienced examiner, in point of fact her attention was riveted to matters far removed from the examination. Patient's condition has not improved, and it has not been found possible to determine her actual rating by tests. The diagnosis of mental deficiency is excluded both by her occupational record and by the degree of emotional development which she shows.

3. Inherent Limitations of Statistical Methods.

It is for studies of groups rather than individuals that statistical methods best serve their purpose. The army tests furnished a very rapid and economical method of making a rough but serviceable classification of a large group of men. No one expected these tests to be fair to each individual. In a statistical study the individual record is buried in the tables which constitute the norms, and is therefore wholly lost as an individual study. The validity of statistical methods for group study varies directly with the number included in the group. The practical significance of a test, for purposes of individual study, begins at the point where its scientific validity breaks down. To expect every normal individual to conform to the norm is almost as absurd as to assume that each man will necessarily die in the year indicated by vital statistics as the probable year of his death.

The psychological boom which swept the country as a result of the army tests was disastrous to the development of psychological testing as a science. Crude tests were thrust on the public prematurely, and were accepted as a finished product. Persons not trained in scientific method are influenced by newspaper reports of the validity of psychometric findings. Judges, probation officers and social workers have been led to believe that the "intelligence quotient" is something which can be accurately determined in each and every case. Even when a young mother is tested at her baby's feeding time within earshot of the screaming baby, the psychologist is still held responsible for reporting an exact rating.

4. Applicability of Tests to Subjects.

No test is equally applicable to all the subjects for whom it is used. In framing our tests it is extremely difficult to find material that is not taught in school, and inevitably the tests put a premium on school instruction.

Tests which are based in part upon knowledge acquired in school and which are standardized upon school children are of necessity more valid for school children and for young people fresh from school than for persons in middle life who have had time to forget much of their school knowledge. In order to make out tests applicable to mature persons without unfair discrimination against them, we should have norms derived from mature persons. If we cannot obtain material for adult norms, at least we should be cautious in our use of children's norms as applied to adults.

Language tests are of little significance for a person who does not possess full command of the language. Oral tests are not valid for a person who suffers from a speech defect. Written tests are useless for elderly patients who cannot see to read, as well as for illiterates and small children.

Performance tests which call for no use of language occupy a very important place in the state hospital, because they have a much wider range of applicability than that of language tests. It appears, however, that our non-language tests are tests of some special aptitudes which a given subject may or may not possess, that they furnish a better measure of his vocational possibilities than of his mental capacity in general.

There is no class of patients for whom we feel the need of tests more keenly than for the illiterate immigrant who speaks little or no English. Unfortunately, we have no test in common use that is adequate for psychometric examination of such a subject. Picture marking tests have little significance for a person who is not accustomed to holding a pencil, because our norms are derived from school children whose reaction to the test is very different. Our form-board tests are standardized for the most part upon American children who have played with toys from infancy, and the norms thus derived are not applicable to the immigrant laborer who perhaps never had a set of blocks to play with, and who works almost wholly with his larger muscles. In order to be valid for such persons, the tests should be standardized upon immigrants of the same type, preferably of the same race. Until we have norms that are truly applicable to immigrants, it is an open question whether we ought to report the results of an examination in the form of a numerical rating.

It must be acknowledged that the subjects who can be tested and rated with the highest degree of reliability are American school children,—the average, non-delinquent ones for whom a finely discriminative test is not ordinarily needed. Defective and retarded children are not so easily tested, and the results obtained from them cannot be accepted with any such degree of confidence. Borderline cases are particularly difficult to classify, and it is never safe to depend wholly upon test findings. Thus it is frequently in our time of greatest need that the tests fail to give us the aid we seek from them.

5. *Sources of Error in Psychometric Terminology.*

"Mental age," the term used by Binet, is a convenient term as being self-explanatory. It should not be assumed, however, that any test or system of tests constitutes a mental birth registry for the unfailing and accurate determination of mental ages. Only a few phases of a person's mental make-up are covered by the test. A true "mental age" rating should include some measure of a man's maturity of judgment about practical affairs, his sense of moral responsibility, his persistence and faithfulness in attending to his duties, self-control, and many other traits not measured by any tests yet devised. The mind of a man of thirty who achieves a ten-year rating by tests is something very different from that of a boy of ten years who tests at age. The boy may be expected to surpass the man in school knowledge and in general alertness,—the boy is incomparably more interesting than the man, unless one is looking for a laborer. But the man, because of his longer experience and more settled habits, possesses resources for usefulness or for mischief far beyond those of the average ten-year-old boy. This man may be more responsible and trustworthy than most boys of fifteen, or he may require more supervision than suffices to keep an active child of five within bounds.

We are safe in reporting that this man's achievement in some particular test is on the ten-year level, but this does not give us the right to say that he has the mind of a child of ten. What we call his "mental age" may be of very little importance as compared with information which must be learned from other sources than a psychological test. To express our results in a term which implies something so definite and determinable is to claim too much for our tests.

The concept "intelligence quotient," introduced by Terman, includes all the inaccuracies which are inherent in the concept "mental age"; and it contains also still further inaccuracies which are due to the very crude method of deriving the I. Q. from mental age.

As is well known, it is customary to find the I. Q. by dividing the child's mental age by his actual life age. This method is mathematically sound only on the assumption that mental development proceeds at a uniform rate from year to year,—an assumption which is not supported by the results of tests. Mental development, as measured by tests, is more rapid at the earlier age levels and becomes increasingly slower as the child approaches adolescence. Thus it is commonly recognized that a mental retardation of one year is a more serious symptom at six years than at twelve years. The difference between the six and seven year levels is appreciably greater than that between the twelve and thirteen year levels. The term I. Q. actually has a different meaning for different ages, but in practice no allowance is made for this difference. The older child is penalized for not developing as rapidly as the younger child develops.

If we had adequate norms for each age level, so that we might compare the achievement of any given person with the average achievement of other persons of approximately his own age, we should then be justified in expressing his achievement in terms of a percentile rating, adopting the figure 100 as the average normal score for that age. (The term "intelligence quotient" would still seem inappropriate to those of us who are not willing to define intelligence as something that can be measured.)

A child who is retested every two or three years during the school period will naturally show a lowering of the I. Q. as he grows older. It is generally although not universally conceded that the I. Q. ratings which the tests yield at the upper age levels are too low to be fair to the child,—that the adolescent subject is entitled to the higher I. Q. which he might have achieved had he been tested at an earlier age. There are indications also that children who are tested at the lower age levels are rated unduly high. Presumably there is some age at which the I. Q. rating derived from a child's mental age is identical with his actual percentile rating by the test in question, as compared with children of his own age. But it is a matter of conjecture at just what age the I. Q. rating is correct in this sense, so there is no point in the scale at which we can safely assume its correctness.

At the adult level still another source of inaccuracy enters in. Some psychologists accept sixteen years as the average adult level, while others place it at fourteen years. To go back to our man of thirty years with a ten year rating: some would place his I. Q. on record as 63, and others would call it 71. This is not the place for discussion of a matter which is a controversial point among psychologists, except to call attention to the significance of this disagreement as showing how little we know about the determination of what we call the "intelligence quotient." Much confusion might be avoided by basing the report on what can be said with certainty,—that the man's achievement in this test is on the ten-year level.

No test known to the writer has been adequately standardized in such a way as to afford true percentile ratings for each age. The current method of deriving the I. Q. from the mental age has been adopted because of its simplicity, and there is every indication that it will be retained in order to satisfy the public demand for exact ratings. The I. Q. form of rating is outstandingly easy to grasp, and it is natural that persons who have become accustomed to this form should find it difficult to think in other terms. But as long as this method is in use, it is well for users of tests to keep in mind the following facts: (1). The I. Q. rating discriminates against older children as compared with younger ones. (2). The normal adult level, as measured by any test in common use, remains yet to be determined.

6. *Psychometrics in the Massachusetts School Clinics.*

The traveling clinic has to do its work under such conditions as it finds, and it is none too easy at best to induce retarded children to give full co-operation in a psychometric examination.

All disturbing factors, both objective and subjective, have a tendency to lower a child's rating by tests. Each child is fairly entitled to the highest rating he can achieve, under conditions as favorable as those of the laboratory in which the norms were developed. When retarded children—who have good reason to be sensitive and unresponsive—are examined under disturbing conditions, there is a constant error which is conducive to low ratings.

Nominally, the results of the psychometric test furnish only one-tenth of the data upon which the diagnosis is based. It happens, however, that the psychometric test is the only part of the examination which yields definite numerical results. This makes it very difficult for the medical examiner to avoid giving undue weight to the findings that are so conveniently expressed. Indeed, it is almost a psychological impossibility for him to gauge correctly the degree of his dependence upon the psychometric rating. In general it can be said that the physicians who place very little confidence in psychological tests—following Dr. Walter E. Fernald—are the ones who take the greatest care with the examination and with diagnosis. In those school clinics in which the pressure of work is too heavy to permit a careful and thorough study of each case, the writer believes that the psychometric test is of doubtful value. It is safer for the medical examiner to find his way with the aid of the other nine points than to rely upon a false guide.

Summary and Conclusions.

Psychometric tests, used intelligently, are frequently helpful in the diagnosis of psychotic patients. Used mechanically, they are apt to be misleading.

It cannot fairly be claimed that native intelligence is measured by our tests. There are many other variables involved, especially school achievement.

Statistical methods, however reliable for study of large groups, have only a limited reliability for individual study. Within a normal group at a given a level, test scores usually show wide individual deviations from the average whi is used as the norm.

Special and distinctive tests are needed for adults as opposed to children, f illiterates as opposed to readers, and for foreigners as opposed to natives. T norms should be derived from the class of subjects for whom the test is to be use

Most of our tests have been standardized upon school children, and the nor are very weak at the adult level. The average normal adult mental capacity, measured by tests in common use, has not yet been determined. (The arr norms are not generally available.)

The I. Q. rating has different values at different age levels, showing a tenden to discriminate against older children as compared with younger ones. At t adult level the estimate of the I. Q. is very crude and uncertain.

New and improved tests are being put out every year. With improved metho of standardization a test system might be made far more trustworthy than present, but it will probably never be an instrument of precision. Nor is it des able, even if possible, that a statistical examination which can be mechanica applied should take the place of careful individual study of each patient.

THE IMPORTANCE OF MENTAL HYGIENE IN THE PUBLIC HEALT PROGRAM

C. A. BONNER, M. D., SUPERINTENDENT DANVERS STATE HOSPITAL

The importance of mental hygiene as a part of public health work is becomi increasingly evident. The statement that over fifty per cent of all hospital be in this country are devoted to mental cases should of itself be sufficient to win bo interest and support for any measures relating to their early recognition and trea ment. This is not at all to dispute the position of other specialties in preventi work; it is rather to call a belated attention to the need of better understandi in a province which has hitherto been more or less neglected. The conditio involved may often be dealt with successfully before they reach the stage of ho pitalization. The chief difficulty is in teaching families to regard mental sym toms in the same light as they do physical symptoms. The more readily, therefo should competent clinics be available at which incipient cases may be examin and recommendations made for care at home. The proper functioning of t community ultimately depends in no small degree on the education of its membe in these respects. Organized lectures may in some part serve this end, while t establishment of clinics may justly claim public as well as private assistance.

The intensity which characterizes the life of the present period renders it o peculiarly in need of a mental hygiene. From a race essentially given to manu pursuits, we have at first gradually, but of late rapidly become denizens of machine-operated world, traveling at machine-speed rates. The change has mi gated most undifferentiatedly physical exertion, but it has brought about a heigh ened nervous tension. The country's watchword has become efficiency; efficien in output, and to be sure in intake. The process has not been without such d mands upon the individual as suggest it to be a very inefficient and false efficienc It is time that we gave thought to an efficiency which takes cognizance of the cor plete physical and mental status of the human beings by whom this swiftly movi world was evolved, and which it still involves. Effects accomplished at the e pense of nerve tissue may be exceedingly costly, not alone to the individual, but course to his family and to the community. Exercise qua exercise, whether nervo or muscular, cannot be but stimulating and desirable; but there is ample oppo tunity for study of the relationship between the nervous excesses imposed by bus ness necessity, and the true luxury of health.

Mystery, however, has always shrouded the mental diseases. Their presen in the home is concealed as completely as possible, and over mental institutions also drawn the veil of secrecy. Whatever the germ of justification behind it, th attitude has certainly not helped the cause. People speak somewhat heroical of appendicitis and other physical ailments, but are inclined to be silent regardi the ailing mind. So it is intelligible how subtly psychopathic indications are a lowed to develop into chronic or even hopeless states before meeting anythi ke therapy.. The first task of mental hygiene has been to depreciate this ysterious element and to enjoin from the beginning that frank confrontation of cts which affords the surest promise of hope for the future. There is room for ngratulation in the evidence that mental institutions have come to enjoy public nfidence as never before; and that we find ever greater numbers willing to seek dvice for their mental problems.

The notion of mental hygiene, nevertheless, was not conceived in mental insti- tions, but was the creation of a lay man who suffered and recovered from a seri- us illness of this kind. He first insisted upon health as a point in connection with e study of the mind. In years it is young, as are preventive methods in physical isease; yet through lectures, literature, and other propaganda, much progress as been made. We do occasionally reflect that the mind is a process concerning e functioning of which it is necessary sometimes to take inventory. It is forced pon us nowadays that successful living depends on successful thinking.

Nor is mental hygiene today a sacrament vested exclusively in the medical pro- ssion. It is something which has direct pertinence for every professional and lay erson with the interest of the community at heart. Just how broad is its scope ill be illustrated by specific examples, when it will be seen to bear upon the study the individual in all the stages into which his psychological and physiological fe has been divided, upon his pre-school years, his so-called formative years, and pon his adolescent, middle, and declining years. It touches his home life, and is life in the school room, at college, and in industry.

The most fruitful field for the investigation and therapeutic application of ental hygiene is furnished by the school child and the pre-school child, the study whom continues to convince us of the overwhelming part that environment ay play in the direction of the human life. The experiences met with at these ears and the impressions resulting, may not appear particularly significant, and et have far-reaching subliminal radiations. The following is an instance in the se of a four-year-old. A father of three children remarried after the death of is wife. Although previous to remarrying he had agreed to place the children t, circumstances prevented this, and the new mother was forced to accept them nder protest. The four-year-old was the most affected of the group, seeming to nse the new antagonism. It was not long after the marriage that the child began act queerly, relapsing into a condition simulating mental deficiency, with mut- m, untidiness, and absence of any desire to play,—an approximation of that ate which when occurring in adolescence, is spoken of as Dementia Praecox. hen studied at the clinic, the child was found not to be feebleminded, and was nt to a children's hospital for observation. Here he was brought into contact ith healthy, active youngsters, and his entire attitude changed. He became ayful, sociable, and happy. His untidy habits were corrected, and altogether he emed quite normal. Finally he was removed from this hospital and placed in a ster-home, where at the present time he is doing splendidly. The question ises, What would have been the end result in the case of this child if he had had remain in his home environment? Too much weight, of course, must not be ven to a few such isolated cases, but this is no less typical than it is striking. It ows how perceptive a child may be, and at the same time how positively it may act.

Another case is that of a little girl eight years of age, unusually bright, who was rought to the Child Guidance Clinic because of her refusal to re-enter school fter some trifling trouble in the class room. She is the daughter of well-to-do nd well-meaning parents. In early life she was sick a great deal, and at times it as thought she would not survive. Accordingly, she had had every attention vished upon her, and on meeting with her first unpleasant episode in school, she sisted upon being given her own way as usual—namely, to remain at home— aving temper-tantrums and even vomiting if a return to school was as much as ggested. Her parents were unable to meet the situation; they had been without y conception of the danger of their over-solicitous attitude. By means avail- le in the Clinic, particularly through the social worker connected with it, the ild was carefully re-established in her classroom, and the faults of the parents screetly pointed out to them that a re-training at home might begin. Without rrection, this child was destined to become a chronic mental invalid, or at the ast an extremely perverse and disagreeable person.

At the Child Guidance Clinic also appeared a boy ten years of age with proble of stealing, lying, the use of obscene and profane language, and cruelty to oth children. He was brought to us by his foster-mother of about a week. At t Clinic, however, the child made an excellent appearance, so that it was hard associate him with the conduct ascribed to him. His intelligence was normal, physical condition satisfactory. Investigation brought out, on the other ha that the father was for the most part an absentee from home and the mother i moral, the streets claiming the youngster much of the time, serving as his teach and re-enforcing the sordid examples set him at home. It is not necessary to clude the possibility of other causative factors in the development of criminals, y who can gainsay the force of conditions like these as contributing consideration The child who observes no ideals but those of trickery and debauchery is not like to elaborate more serviceable ones of his own. Can a child exposed to these ten years be re-conditioned? In this particular case the answer remains with t Child Guidance Clinic.

John, a thirteen-year-old boy of borderline mentality, visits the Clinic regular He was first referred for delinquency under the influence of keener boys of his o age who were accustomed to use him for a tool. The Clinic has arranged spec class work for him and enlisted him in certain social organizations which shou affect him favorably. In a few years he will be ready for work; if during these f years he can be guided safely, he will be reclaimed as a useful and honorable citize

A good deal of the value of the Clinic, then, in correcting such cases as have be reported, is in its prevention of more aggravated conditions. It is by reason their insidious nature and eventual tendency to chronicity that mental diseas are so difficult of attack. Often there is a lack of early symptoms such as appe in the onset of most physical diseases. Mention should be made, for example, the dreaded disease of adolescence, Dementia Praecox, which accounts for fr 40 to 50% of the custodial population of our large institutions. This compa with cancer as one of the gravest medical problems which has resisted soluti It is impossible to estimate the gain which would accrue from knowing more in mately this affection. In general our handling of disease relies much upon t microscope, yet pathology has yielded little information on the subject of Demen Praecox. It would seem that this disease does not leave its mark upon bra tissue; the symptoms observed, at least, are quite out of proportion to the path logical findings. Nor do other laboratory procedures throw any great light up the matter. Psychology has helped us to a better interpretation of the clinic phases, and it is now the trend to follow carefully the presence of suspicious tra in children year after year, with a view to determining if and how they may cryst lize into the condition named above. Surely no disease calls for more study; m funds must be procured, and workers trained for research, if headway towa solution is to be expected. Individual theories have been put forth from time time, but none is very extensively satisfactory. Progress must still be look for along clinical lines, and from the Child Guidance Clinic in particular, and the must be considered as indispensable as the research laboratories of large hospit and industrial concerns.

At the present time, social agencies are the main reception terminals for referr cases. When a clinic is well-established, however, mothers do voluntarily bri their children for advice the same as to other health clinics. But for a clinic be of the greatest value, it is necessary that the general medical practitioner shou be interested, for he is doubtless meeting these problem cases daily. Since Ch Guidance work is already of a specialized nature, it is doubtful if he himself w be in a position to recomment in it; but he can, of course, readily recognize t nervous child and refer him to the proper place for observation. The subje should not be without interest to the school teacher, either, for it is she who, ne to the parents, is most in contact with the child in his most formative peri The teacher, moreover, with an understanding of the principles of mental hygie will be better equipped to minister not only to the problem child as such, but the normal child in his more refractory moments.

Eventually mental hygiene will be a solid part of the educator's curricul Mental clinics must as soon as possible be sponsored by the State as on a pari with its other public health ventures. The state hospital should be the center stimulation for its district, and its physicians expected, as part of their duty, to exploit their knowledge regarding mental disease and its prevention. Every community of reasonable size should provide means for the assistance of parents in solving undesirable characteristics of behavior in their children, before they have opportunity to set. The tremendous dividend in personal and social integrity which a strong preventive program will pay are sufficiently obvious. It must further not be forgotten in this connection that it will to a degree at least relieve the burden of the state institutions for the more confirmed cases.

A PSYCHOLOGICAL PROJECT FOR STATE HOSPITALS *

By Grace H. Kent, Ph. D., Danvers State Hospital

Labor turnover in state hospitals, according to a superintendent of a large institution, is "heavy enough to wreck a private business." Manufacturing companies are making use of psychological methods as a means of reducing labor turnover. It is possible that these methods might be serviceable also in the selection of employees for state hospitals.

Among the employees of a large public institution there will be found many persons who constitute a special class. This does not refer to skilled mechanics, to women who enter the nurses' training schools, nor to persons who are promoted to positions of trust and who remain many years in one place. It refers rather to unskilled men who seek institutional shelter during the winter months, untrained women who leave on slight provocation only to seek employment in some other institution, attendants who are just barely able to hold positions of minimal responsibility. A few conjectures may be offered, very tentatively, concerning the mental capacity of employees who belong to this class.

Anyone who can pass a 13–14 year test, after having been several years out of school, may be considered a person of normal mentality in so far as mentality can be measured by tests. Those employees who rate upwards of thirteen years are presumably persons who by reason of special experience or interest are able to make a position something more than a job, and who would therefore fall outside the special group under consideration. It is a safe guess that most of the unskilled and itinerant employees would be rated lower than thirteen. The lower limit is unknown.

If we had on record the test ratings of all persons employed in a large institution, a comparative study of their ratings and their standing in the hospital would make it possible to determine the lower limit of ability that is useful in hospital economy. It would show also what level of intelligence—as measured by tests—is most favorable for work of a given type. It would be possible to discard the term "mental age," which is misleading as applied to adult subjects. The employees could be divided into the groups A, B, C, D, E, according to their test scores, and the tables of norms derived from these scores could be used for rating new applicants for employment.

As a practical measure it would not be advisable to require employees to submit to psychological examination, because any procedure so unusual would be sure to arouse resentment. The data can be obtained, more slowly but on the whole more satisfactorily, by routine examination of all applicants for employment. The test can be made much more interesting than the various blank forms which the applicant is required to fill out, and it need not be more offensive.

The term "intelligence" should never be used in connection with this examination, but the term "vocational test" may be used freely. It is always possible to give the subject some advice that will be useful to him. The strength and weakness of his mode of procedure should be brought to his attention with perfect frankness, at the close of the examination, and the examiner can tell him what qualities he should cultivate in order to be a more efficient worker. For example, the examiner may counsel the rapid worker to pay more attention to accuracy, and may point out to the slow worker the importance of speed. Without giving any false information, the tactful examiner can make the examination seem a privilege rather than an imposition. The subject should carry away the impression that

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* New York, November, 1927.

the test has been given him for his own advantage. On no account should he be given any reason to regard it as a trap that has been set for him.

The test should be adapted to the individual subject. It is of the utmost importance that there should be nothing that would be conducive to a sense of inferiority. When the subject is too sensitive and self-conscious to respond normally, the more difficult elements should be omitted. The examination should generally be opened with tests of mechanical performance, the tasks being well within the reach of the subject and yet difficult enough to be interesting. These tests will usually serve to place the subject at his ease with the examiner. After a comfortable attitude has been established, a language test may be offered lightly as of comparatively little importance, "to see how well you remember what you learned in school." Attractive tasks which are certain to be performed correctly should be kept on hand for closing the examination, so that the subject—whatever his actual success—may be left with a sense of achievement rather than a sense of failure.

The report given to the hospital should include the following:

1. A rating by language tests, offering a rough approximation to the subject's general mental capacity. Incidentally this will afford a basis for a fair conjecture as to school achievement, and the subject's own statement concerning his education need not be accepted at face value.

2. Comprehension of written instructions, as shown by ability to follow difficult and involved directions on a printed page.

3. Attentiveness or distractibility, persistence, confidence or diffidence, poise, willingness to obey specific instructions.

4. The test should show whether the subject is an accurate worker or a rapid worker, or both, or neither.

5. Ability to take advantage of practice in the solution of mechanical tests. The extent to which the subject makes use of experience in performance of these tasks cannot be stated in exact terms, but it is always possible to report a general tendency.

6. The subject's attitude toward the examination is frequently of greater significance than the ratings. Does his interest develop as the examination progresses? Does he respond to the examiner's efforts to put him at his ease? Is he suspicious and inclined to think that he is being imposed upon? Is he stimulated to greater effort by the increasing difficulty of a series, or does he become discouraged? Is he easily irritated, when baffled by a difficult task? If so, does his irritability indicate a dissatisfaction with himself, or hostility toward the examiner?

Of course no psychological examination can be offered as a mechanical means of selecting suitable employees. A person may be lazy, unprincipled or cruel, and yet score high in tests. It might be possible to devise a test for showing ability to put oneself in another's place, but this is a project for the future. Patience of a certain type is indicated by performance of mechanical tests, but this is not necessarily the kind of patience required for dealing with psychotic persons. Tactfulness, even temper, ability to preserve an impersonal attitude under annoyance of a personal nature,—these and many other important traits must be determined by other methods than by any psychological tests now available.

But the examination, with all its limitations, does afford a rare opportunity for making observations on the subject's temperamental make-up, wholly without his knowledge. The tests, especially performance tests, make such heavy demands upon the subject's attention that he is caught off his guard. His impulsive reactions frequently come to the surface to a much greater extent than he is aware of. He knows that his mechanical ability is being tested, but does not suspect that his personality traits and emotional reactions are being studied.

The writer has developed a system of tests especially adapted to the examination of adults and adolescents of slightly subnormal mental capacity, and the application of this system to the study of state hospital employees has been kept constantly in view. A collection of printed pages is used for the principal language test, and the rating can be reported in terms of "mental age" until it is possible to obtain norms derived from hospital employees. A ten-minute oral scale is available for subjects who are weak in reading ability. There are two performance tests, each being a graded series which ranges from five-year ability to that of the superior adult. One of these is a test of absorbing interest to male subjects, and the other is outstandingly attractive to women.

The standardization of these tests for hospital employees is a research undertaking which will be of immediate use while material is being collected to make it more serviceable. It cannot, however, be recommended immediately for statistical or mechanical use. What is to constitute the minimal requirement is a matter for investigation, not for conjecture. For the present no applicant should be rejected wholly by reason of a low rating in tests. We may find that the hospital can use to advantage some human material of a lower intellectual caliber than we should expect to find useful, and it is conceivable that the attendant of rather low grade intelligence may possess certain advantages over one of higher type. The applicant who rates low in tests but who appears in other respects to be acceptable should be given a fair trial, and his course should be watched with special care. In the interests of the experiment, it is desirable to have on record some test ratings of attendants who fail to give satisfactory service. The most favorable time for undertaking the study would be a time when help is short, so that every applicant tested would be given employment and would, therefore, be under observation for a short period.

It is recommended that this investigation be carried on very quietly in one institution until there are one hundred records on file. With this amount of material, it should be possible to decide whether the experiment is worth carrying further. If it seems to offer fair promise of paying for itself, it may be recommended for a state-wide undertaking. The tables of scores which are to be used for rating applicants should be derived from several institutions rather than from a single institution.

WALTER E. FERNALD, M.D.
Superintendent, 1887–1924

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GEORGE M. KLINE, M.D.
DOUGLAS A. THOM, M.D.
GEORGE L. WALLACE, M.D.

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WALTER E. FERNALD MEMORIAL NUMBER

FOREWORD

Among the names which bulk large in the history of psychiatry one of the most conspicuous is that of Walter E. Fernald. Taking up as he did the problem of mental deficiency at a time when the care of the feeble-minded was essentially custodial, he developed the concept of training his charges with a view to fitting them for life in the community. This attitude, then new and almost revolutionary, has now become the accepted principle in the field of mental defect.

Not only Massachusetts, but the entire civilized world, owes a debt of gratitude to the sagacity, humanity and foresight of this great man. It is as a token of this gratitude, and with pride in the accomplishment of a loyal servant of the Commonwealth, that the Department of Mental Diseases dedicates this issue of its Bulletin to the memory of Walter E. Fernald.

GEORGE M. KLINE.

RESOLUTIONS ADOPTED BY THE DEPARTMENT OF MENTAL DISEASES

Whereas, In the passing of Dr. Walter Elmore Fernald, Superintendent of the Massachusetts School for the Feeble-Minded for thirty-seven years, the Commonwealth has met with an irreparable loss, the Commissioners of the Department of Mental Diseases pause in tribute to the rare qualities of this great man — whose distinguished works in the field of feeble-mindedness will live on, a monument to his memory. The school at Waltham was the first of its kind to be established in this country and — through the broadening and development of its policy by reaching out into the community — has steadily advanced in accordance with the ideals of Dr. Fernald, whose leadership has long been recognized, not only in this State but in other States and countries. Statesmanlike, resourceful and far-seeing, with a simplicity and kindliness in his bearing, his was a compelling personality of much personal charm. It was a privilege to have been associated with him — and we feel keenly that there is a vacant place. Be it therefore,

RESOLVED, In gratefully acknowledging his services, these resolutions be spread upon the records and a copy thereof sent to the family of Dr. Fernald.

RESOLUTIONS OF THE SUPERINTENDENTS

To Mrs. Walter Elmore Fernald and the Members of His Family:

We, associates of our distinguished brother, Doctor Walter Elmore Fernald, Superintendents of the Hospitals for Mental Diseases and of the Schools for the Feeble-Minded, of Massachusetts, assembled at our first monthly meeting following his death, beg to express our heartfelt sympathy to you and yours in this our common hour of sorrow and bereavement.

We beg that we be permitted to join ourselves to the stricken circle of near ones whose feeling of loss is more intimate and personal and closer to the heart than that of the great number who are bowed, with you and with us, in grief; but who had not the privilege of knowing Walter Fernald as we did. For, Walter Elmore Fernald, the man, who inspired lasting friendships and loves and loyalties, was much more remarkable to his friends than even the vast bulk and merit of his works approves him.

It was in the sacred circle of his intimates, in the commerce of friendship, by his cheering, uplifting influence, by his brave attitude towards life, by his lofty ideals, and by his unwearied intellectual efforts, that he was an outstanding figure such as men delight to elect and follow as Leader and Inspirer, —

> And, afterward, when the silver cord
> of life is broken, to remember with
> gratitude while memory remains.

The affection and pride which his radiant personality and abilities inspired in us, and the sense of loss we feel at this hour, we know represent but faintly the feelings of those who knew him even more closely, and of whose lives he was an intimate part.

But we, too, regard ourselves as children and dependents of his great leadership. And our hearts are desolated, since he is with us no more. There remains, and will remain, always, with us the impression of his gracious friendliness, his generous thoughts, his honorable words and deeds, and his example.

> These are things that will persist
> And live like a Spirit among us,
> "One with him in the dim Forever."

Out of all bounds of time and space there falls this harmony among us: memories: intimate little touches of consideration and human kindness, helpful suggestions and assistance, wise guidance, inspiring counsel. All his!

Other things fade and pass in time. These remain.

> "The Stars shine as of old. The Unchanging River,
> Bent on its errand of immortal law,
> Runs its appointed way
> To the Immemorial Sea.
> And the brave truth comes overwhelmingly home:—
> That he, in us, yet lives and shines,
> Shines and fulfills himself,
> Unending as the River and the Stars."

TESTIMONIAL OF THE FERNALD SCHOOL

At the annual meeting of the Corporation of the Massachusetts School for the Feeble-Minded, held at the School on Thursday, December 11, 1924, the following testimonial, prepared by Prof. Thomas N. Carver, was read, adopted and ordered printed with the annual report.

Minute on the Death of Dr. Fernald

In the fortieth annual report of the Trustees of the Massachusetts School for the Feeble-Minded for the year ending September 30, 1887, appears the following brief chronicle:

"After serious and prolonged search the Trustees have elected Walter E. Fernald, M.D., the first resident superintendent of the school. They need say no more about him than that his professional and personal qualifications appear to promise success in his responsible and delicate labors. He has had the varied experience and training which his post requires and will enter upon it, not to try his hand, but to bring his matured acquirements to our assistance."

The coming of Dr. Fernald marked an epoch, not only in the history of this school, but in the care and education of the feeble-minded everywhere. When he came, the school was located in South Boston; it had never had a resident superintendent; it was inadequately housed, and though it had had the priceless benefit of the advice and counsel of the great Seguin, there was yet no constructive mind at its head to transform that advice into a living school and to make it a dynamic factor in the life of the State and the nation. After thirty-seven years of labor, he laid down his work on the evening of Thanksgiving Day, Thursday, November 27, 1924. The school, as he left it, is a monument to his life and work. While it was still far below his own ideals, it was nevertheless an example followed by other institutions throughout the country and, to some extent, throughout the civilized world.

He was born at Kittery, Maine, February 11, 1859, of old New England stock. He was educated in the public schools, in the New Hampden Literary Institution and the Medical School of Maine. From 1882 to 1887 he was assistant physician at the State Insane Hospital at Mendota, Wisconsin, from which position he was called to take up his work at the Massachusetts School for the Feeble-Minded.

During his period of service here, he achieved distinction as a builder, as an educator, as an organizer, as a scientist, and as an inspiring and lovable person.

As a builder, his skill is evidenced by the plant as it now stands in Waltham, and the farm at Templeton. Everything that has been done on the grounds has been done under his immediate supervision and is his personal achievement. During the last twenty years there has been practically no building erected anywhere in the United States, by any institution for the care of defectives, without first seeking his friendly and expert advice.

His extraordinary versatility has been the marvel of all those who were familiar with his work. For many years he had to be his own engineer, to know carpentry and all the details of construction, ventilation, sewage disposal, care of cows, balanced rations, and a multitude of other things. There was practically nothing that had to do with the care and education of the feeble-minded or with the construction and operation of a plant for that purpose in which he was not more expert than most specialists.

His last achievement in the field of physical construction was the completion of the power plant, which had been the desire of his heart for many years. It is a source of gratification to all his friends that he lived to see it completed and in operation.

Probably his greatest work as a builder was the library of the school, pronounced by experts to be the most complete library on Mental Defect to be found anywhere in the world. This has been his own personal work. Every book, pamphlet and reference bearing on the subject that he has been able to get, either in this or any country, is now in that library.

His achievements as an educator have been even more far reaching in their influence than his achievements as a builder. He early realized that the first step in the education of the feeble-minded was to make them happy; that the feeble-minded, like other people, are happy when they are doing something for which their capacity fits them. Accordingly, he arranged for every child under his care a twenty-four-hour program, in which the child was doing, all the time, whatever its needs and capacities demanded. To provide amusements for a child of high mentality that are suitable only for children of low mentality would be uninteresting to the child. To provide amusements for a child of low mentality that were suitable for children of high mentality would be irritating. Therefore, each child was provided with the opportunity to play according to its capacity. Work was also provided on the same plan. Dr. Fernald was the first person to standardize manual labor according to intellectual levels. He was able to find work that was nicely adjusted to the mental capacity of every feeble-minded person. This made their work a pleasure as well as a means of education.

His leadership in this field was so clearly recognized that the school has become in a real sense a university. Men and women from all over the world have come here to see not only the economy and sturdy construction of the buildings, but to study his methods of training the feeble-minded. During the last year of his labor, individuals and delegations had been sent from thirteen foreign countries, from twenty-eight States of this country and from four provinces of Canada. He has been a welcome and inspiring lecturer before medical students of the Tufts and Harvard Medical Schools. He has been instructor of teachers for special classes of backward children, of public health nurses, physicians taking post-graduate work in pediatrics and in nervous and mental diseases, normal school students, public school teachers and superintendents. During the week immediately preceding his death, he was conducting a course for physicians from all the State hospitals in Massachusetts, to fit them to be psychiatrists in charge of school clinic work in the State.

As an organizer he succeeded in standardizing to the last degree everything he undertook — whether it was the erecting of a building, the clearing of a field of stones, or the loading of wagons. He found that the work of the feeble-minded had to be simplified to the last degree. This simplification required that each pupil should do one thing at a time. To thus simplify the work of each one required extreme forethought and organization to a nicety.

He also succeeded in building up a staff of loyal and capable co-workers. As a scientific investigator his achievements are second only to those in the field of education. "The Waverley Researches in the Pathology of the Feeble-Minded," by Walter E. Fernald, E. E. Southard and Annie E. Taft have been completed through the first thirty numbers, and much more work had been planned. He was the originator of the ten-point system for the testing and classification of the feeble-minded. Previously, it was customary to classify them on the basis of psychological tests alone. Dr. Fernald proved conclusively that this was not enough. In addition to the psychological examination under this system, the pupil's family history, personal and developmental history, school progress, school test, practical knowledge, economic efficiency, social history and traits, moral reactions and general physical conditions, are all counted in estimating his total capacity.

His scientific standing was widely recognized. In 1913 he received the honorary degree of Master of Arts from Harvard University. As a lecturer, he was widely sought, not only by medical schools, but by every learned organization having to do with mental diseases or criminology. He has been twice president of the Association for the Study of the Feeble-Minded. At the time of his death he was president of the Massachusetts Society of Psychiatry and of the Boston School of Occupational Therapy. He had just retired from the presidency of the New England Society of Psychiatry. He was a leader in the National Society of Mental Hygiene.

His reputation in these varied fields of activity, combined with his winning personality, gave him great influence wherever the subject of defectives and defective delinquents was under consideration. He has been instrumental in securing practically every piece of legislation that has had anything to do with these subjects in Massachusetts during the last thirty years.

His was an extraordinarily busy life. Up to the moment of his last illness there was no retardation of his activities. He became ill Friday morning, November 21st. On the preceding Monday he began a course for physicians from all the State hospitals, lecturing and demonstrating from nine till four. Before nine, he cleared his desk of such work as had accumulated and which he could not delegate. Tuesday evening he presided at a meeting of the Massachusetts Society of Psychiatry. Wednesday evening he attended a meeting of the Trustees and Faculty of the Tufts Medical School at the University Club. Thursday evening he was constrained to recall an engagement previously made. Early the next morning he was taken ill, from which illness he did not recover. He literally died in harness.

Those who knew him best, however, will remember him more because of his inspiring and lovable personality than because of his notable achievements. Since his death, literally hundreds of parents of children who had been under his care have testified that they loved him because they felt that he loved the children. Those who knew him realized that it was this, more than his professional enthusiasm, that drove him. Sometimes it seemed that he permitted it to drive him too hard, — but who shall say? It may have hastened the bringing of his labors to an end, but in another sense his labors cannot come to an end. He is with those of whom it is written: "That they may rest from their labors; and their works do follow them."

THOMAS N. CARVER.

ADDRESS GIVEN AT THE MEMORIAL MEETING FOR DR. WALTER E. FERNALD,

Massachusetts Psychiatric Society, January 20, 1925

By George L. Wallace, M.D.,
Superintendent Wrentham State School

Dr. Fernald first became identified with the work for the feeble-minded in 1887 through his appointment as Superintendent of the Massachusetts School for Feeble-Minded which, at that time, was located in South Boston.

When the writer became associated with him in 1893 he had already built an institution to house 400 children at the present site at Waverley and had moved there the children from the congested institution at South Boston.

He had also already gathered and assimilated the best thought of the world regarding the education and care of the feeble-minded and was rapidly becoming a leader and authority in his chosen field. This leadership he maintained to the end of his life. In the year 1893 he was President of the American Association for the Study of the Feeble-Minded. The annual meeting of the Society was held in Chicago at the time of the World's Fair. This society honored itself by selecting him for its president the second time, his last term being the last year of his life and the meeting having been held in Washington last May. The subject of the President's address in 1893 was "The History of the Treatment of the Feeble-minded"; the subject of the President's address in 1924 was "Thirty Years' Progress in the Care of the Feeble-minded." The first address brought up to date what, at that time, had been accomplished for the feeble-minded but, characteristically, it was replete with prophecy for the future. The second and last address thirty years later is a masterpiece in completeness and could well be accepted as a classic on the subject of mental defect. It is also full of youthful vision of prophecy of work to be accomplished. In not one word, sentence or thought contained in that paper can it be gleaned that the author is content with the accomplishments of thirty years of rapid progress, but rather the recitals of accomplishments are prophetic of progress in the future.

The history of these thirty years of accomplishment in the care of the feeble-minded is the history of thirty years of achievement of Dr. Walter E. Fernald, yet, with his characteristic modesty, he makes no allusion to himself. It might, however, very appropriately be re-titled, the "Autobiography of Walter E. Fernald in the Field of Mental Deficiency."

In the early days of his work we found him intensely interested in making institutional provision for the care of the feeble-minded. In this direction his labors were two-fold. It was not only necessary for him to write and lecture in order to build up public sentiment, but also to build and organize an institution and thus prove to a doubting community the desirability and necessity of caring for its feeble-minded.

In organizing the institutional care of the feeble-minded he had no beaten path to follow. He had to attend to all details himself because a new field was being explored. He was the only one who knew and his helpers could only learn from him through precept and example. Thus within his own great brain was gestated and unfolded a new and brighter world for the feeble-minded.

In those early days the work for the feeble-minded was not popular. It was difficult to interest men and women of initiative in the movement. But under the enthusiastic leadership of Dr. Fernald in these later years we have had the satisfaction of seeing some of the best minds in the country focused on this great problem.

Next we find him organizing in his own institution a system of education and training that is used in every school for the feeble-minded in the country and in all special classes in the public schools. The Seguin system that had been permitted to die he resurrected and breathed into it such a vital spark that by amplifying and reinforcing it with his own ingenious methods so long as there are feeble-minded children to be educated and so long as there are understanding educators, the Seguin-Fernald method of education will continue to live.

Later, we find him talking to small groups, to large groups, to individuals, educators, physicians and laymen and working in every possible way for the establishment of special classes for the feeble-minded in the public schools. With his clear and sympathetic understanding of human problems he recognized the many conditions that would make it desirable to give in the public schools the education required by backward children. The first special class in this country was established in Providence in 1896. This was soon followed by the establishment of classes in Springfield, Boston, New Bedford and other cities in Massachusetts and, in a comparatively short time, in every center of any considerable size throughout the country. This influence finally culminated in Massachusetts in the admirable law of 1919 which makes mandatory on the public schools the education of the feeble-minded.

We find him making early use of the Goddard and Terman adaptations of the Simon-Binet tests for measuring intelligence, but with his characteristically clear vision as a physician and psychiatrist, he was unable to satisfy himself that the evaluation of the intelligence of an individual alone was sufficient data upon which to base a satisfactory diagnosis and prognosis. He was much more concerned with the individual as an entity. Hence we find him laboring for years in his endeavors to formulate a satisfactory method of procedure in the examination of patients. Out of this period of struggle and hesitation in which he refused to accept as final the findings of the psychologist, he evolved his ten fields of inquiry, one of which was the psychological examination. The findings from an examination conducted within these ten fields of inquiry presents a graphic, composite picture of the individual as an entity. This method of examination has been adopted by the Department of Mental Diseases and is being used by their organized clinics throughout this State in the examination of children in the public schools. In fact, it is now being widely used throughout the country in institutions, in mental hygiene clinics and by many individual examiners.

With his logical mind and his life habit of advancing consistently (having perfected a satisfactory method of examination) we are not surprised to find him earnestly working for a census of the feeble-minded in Massachusetts in order that the extent of mental defect might be understood and that a satisfactory program for dealing with the problem might be established.

The census in operation revealed a much larger problem than even he had anticipated and we, accordingly, find him revamping his previous program and blazing new trails through the maze of ensuing discouragement to the open spaces where the whole problem is viewed with a clearer vision. He quickly recognized that there must be large numbers of people in the community with poor intelligence who were good citizens and that the condition was surely much larger than institutional problem. But before making any recommendations he felt he must convince himself with some actual evidence; therefore we find him making an extensive survey into the behavior of inmates discharged during a period of twenty years from his own institution. The result of this survey is now a matter of history. It was so satisfactory that it acted as the pivot upon which this great man turned the thought of this country from institutional care alone to community care for the feeble-minded. At the same time the institution was placed in a new relation to the community, — as its agent to do a specialized kind of work in the big problem of caring for the feeble-minded.

From this time until his death he worked unceasingly for a better understanding by the community of the problems of feeble-mindedness with a view to their care in the community, by the community so far as is possible. He realized that there are in the community large numbers of the feeble-minded who are self-supporting and capable of making proper social adjustments; large numbers who require expert attention at certain periods of their lives; that all of them need special consideration during the school period; while large numbers require institutional care and education for a period of their lives and some require institutional care and protection as long as they live.

With his clear conception of the problem we find him working with teachers to the end that they may better understand the backward child, emphasizing always the importance of making him a useful citizen. We find him working with the social workers of established agencies, enlightening them on the problems of mental defect and enlisting their interest and sympathy in supervising those who need supervision in the community. He is also busy at this time establishing clinics for the examination of backward children in connection with the schools in many of the cities. These successful clinics prepared the way for the enactment of the law of 1919 which requires that all children in the public schools who are three or more years retarded shall be examined by a competent psychiatrist and where, in a school section, ten or more children are found whose retardation is due to mental defect, the school authorities shall organize a special class for their education. In making this law operative one of the greatest problems confronting the Department of Mental Diseases was to find competent psychiatrists for the examination of the children with mental defect. In the state hospital service were many competent psychiatrists in the field of mental diseases and at this juncture we find Dr. Fernald organizing a clinic of intensive training to prepare the state hospital physicians for organizing and conducting state-wide clinics for the examination of all retarded children in the public schools. This clinic for the education of the state hospital physicians in the field of mental deficiency he conducted for a week every year.

There we find him as life burned low, lighting the torches of knowledge and passing them along to these men and women, for this clinic of 1924 was his last piece of work among us.

In his institutional work during these later years we find him busied on the physical side, transforming an old institution into a modern, well-equipped one. In research we find him associated with Southard in making an exhaustive study of a series of brains of feeble-minded individuals; organizing an excellent psychological laboratory; instituting a weekly clinic at the School in which thousands of children have been examined and an equal number of parents advised as well as consoled, for at these clinics he was the friend as well as the expert and was always the last to see bereaved and sorrowing parents, always alert to the slightest suggestion that might advance the care of deficient children. We are not surprised to see him early and enthusiastically exploring the field of endocrinology, making use of the extracts of the ductless glands in the treatment of all cases where such treatment was indicated. How delighted he was when these cases made marked improvement, as many of them did. How deep his disappointment over those who failed to improve.

In the field of education we find him perfecting the system of education in his schools to the end that as many children as possible might be prepared to take their places as useful citizens in the community. In connection with this work and in order to insure its success, he organized the social service department whose chief work is to smooth out the rough places in the community for the feeble-minded.

In addition to his interest in the laws creating new institutions and making provision for institutional care of the feeble-minded, he was largely responsible for five laws which have great social significance in dealing with the problem of the feeble-minded.

First — the law requiring the census and registration of the feeble-minded in the State.

Second — the law establishing clinics for the examination of retarded school children.

Third — the law permitting the parole of the feeble-minded from the State Schools.

Fourth — the law legally recognizing the defective delinquents and making separate institutional provision for them.

Fifth — the law requiring that an inquiry shall be made into the mental status of prisoners.

His allied interests were many; he dominated the institutional and community programs for the care of the feeble-minded throughout this country as well as Canada. How successful this domination has been in the interest of the feeble-minded can best be attested by the following quotation from his address at Washington.

"In 1893 there were nineteen state institutions in seventeen different states. In 1924 there were fifty-one state institutions in forty-three different states. Only five states have failed to make institutional provision for the feeble-minded. In 1893 there were 6,009 patients in state institutions and in 1923 there were 39,655 so accommodated. In 1893 there were nine private institutions and in 1923 there were eighty-nine. In 1893 the problem was wholly an institutional one. In 1923 there were special classes in the public schools of 171 cities and towns with an enrollment of 33,971 pupils."

As an officer and promoter of the National Committee for Mental Hygiene we find him interested in the whole problem of the mental health of the Nation. In that department dealing with mental deficiency he was especially instrumental in the establishment of the mental clinics in different cities throughout the country.

His aims were that all feeble-minded be registered and known to the proper authorities; that all receive proper education; that those requiring supervision receive such in accordance with their needs; that those requiring institutional supervision shall live in a world full of educational activities and receive the loving, thoughtful care their condition merits.

Remarkable indeed was his ability to enter sympathetically, understandingly, tactfully into the lives of people of all ages and classes. He understood the young child, heartily entering into his world of imagery and play. He appreciated as few do the acute suffering of child life in its transient disappointments and heartaches. He sympathetically understood the hesitating, shy, awkward, adolescent youth and tactfully let him into the blessed state of self-forgetfulness. The surging restlessness, exuberances, joys, anticipations, hopes and disappointments of young people were always well measured and gauged by him. Fortunate indeed were the many who counted him among their dearest friends. As such, he, without reservation, entered into youthful lives, and his companionship insured them the advice and help so essential to youth in understanding life.

To those in the contributing, producing activities of middle life with its urge for accomplishment, here flushed with success, there chastened with disappointment and bereavement, he functioned as a stabilizer and always a friend, counsellor and leader. To those among the shadows of advancing years his radiant, youthful personality carried gladness and hope.

No class or stratum of society could claim him, for his was an emancipated life, moving freely within the whole range of human experience, wherever there was service for him to render. He was "all things to all men," the simple, country folk, the poor, foreign peasant recently come to our city slums, to those of the great middle class of workers, to those reared in refinement and luxury, to educators and educated, at ease and a friend giving unstinted service.

His ideals were those of service to his fellow men with special consideration for those who most needed his service.

His life was a vibrant cord ready to be touched by his fellows and always to ring true, clear and strong with sympathy, wise counsel, warm and enduring friendships, enthusiastic, untiring service, and hopefulness, always hopefulness.

DR. FERNALD IN 1885
Shortly before he became Superintendent

TRIBUTE TO DR. WALTER E. FERNALD

By Thomas W. Salmon, M.D.,
*Director, National Society for Mental Hygiene**

Read at the Memorial Meeting of the Massachusetts Psychiatric Society January 20, 1925

If ever there was a man who showed wisdom and common sense in everything he did it was Dr. Fernald. This is especially true of his national achievements. He was one of the first board of Directors of the National Committee for Mental Hygiene and one of those who helped Mr. Clifford W. Beers form the original Committee. When this Committee started its program about fifteen years ago Dr. Fernald had completed the first half of his life's work. It would be easy to speak briefly of his influences as a whole on the care and management of the feeble-minded but I must confine myself to his national achievements. When he began his work the most important issue was the actual housing of those who were mentally defective. Only three States had institutions for the feeble-minded. This meant that those little children were found herded in prisons, without health rules and where their individual needs could not be supplied. When he laid down his life's work a few weeks ago thirty-five states had institutions of this sort.

In 1919 the Massachusetts Legislature passed a law for the state-wide examination of mentally retarded children. After the passing of this law Dr. Fernald devoted himself to its successful application. It was interesting to see the manner in which he did his work. He captured those about him with his personality. They were never bored. He did not talk too long. He did not make too many demonstrations but on the other hand he never allowed those in his audience to forget for a minute the purpose for which they came. In Mississippi, Alabama and Massachusetts we find evidence of advice extended to them not through indirect channels but through his personal attention. In 1905 he visited other countries for the purpose of gathering material on the care and management of the feeble-minded. After making this trip he wrote a book which, no doubt, many of those present have read. This book will be a source of help to us for many years in the study of mental deficiency. So, if the feeble-minded children in Edinburgh or London are safer in the community it is so indirectly through the efforts of Dr. Fernald. He had great influence on public opinion and always stimulated interest. He published twenty-five articles which were especially intended for lay people. These articles were widely read and many of those who read them will probably be teachers of his program in the future. He always promoted health interests in the schools. A large percentage of the children who had been under his personal care in the school in Waverley have been released successfully. These children have gone out into the world and become good citizens because of his influence.

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* Since deceased.

His work is over but his voice is still heard. Within the last twenty years the Legislature has passed many laws for the protection of defective children, and so it is that his work will go on due to the aid of his unseen hand even though he is gone. We who have the honor of carrying on his work will ask ourselves over and over again the question, "How would Dr. Fernald have done this?" and I know we will be able to deal more successfully in the time that is to come with those who are feeble-minded because of his influence.

HISTORY OF THE CARE OF THE FEEBLE-MINDED

By Benjamin W. Baker, M.D.,
Superintendent, Laconia State School, Laconia, N. H.

The care of the mentally feeble children of a state reflects accurately the religious conceptions, the medical science, the educational and judicial standards of that state. For many years the benighting influence of the belief in demoniacal possession as the cause of mental defect and disease obscured the vision to a more intelligent view. For years the defective brain, incased in its bulwark of cranial bones, awaited the development of scientific technique necessary for its investigation — a pedagogy adapted to its needs, and a law to protect defenceless youth.

The religion of Christ and its acceptance by nations advancing in civilization was favorable to the care of the feeble-minded, but the historic bridge which spans the river of time up to the year eighteen hundred is illuminated only occasionally by beacons of scientific discovery. In the fourth century the Bishop of Myra championed the cause of the feeble-minded and organized efforts for their care and protection. In the twelfth century, during the reign of Edward II, England passed a law placing imbeciles under the legal protection of the King, who administered the estates of "natural fools" and provided them sustenance. About the middle of the seventeenth century, St. Vincent de Paul provided care for the mentally infirm at the historic Bicetre in Paris. No attempt had yet been made to investigate the causes of mental deficiency or to treat, train, or educate this class of youth totally devoid of ability to advocate a condition of which there is none more difficult of scientific approach.

A chronic patient's chances of obtaining relief depend on the appealing nature of the affection, a persistent, intelligent presentation of the case and the patient's ability to elicit personal interest. When cured a victory has been won, not only for the patient, but for the whole class of sufferers to which he belonged. The deaf and dumb are credited with eliciting the interest which not only inaugurated the scientific study of the mentally deficient, but of furnishing the creative stimulus for inventing the telephone.

Juan Pablo Bonet, a Spaniard, created the manual alphabet for the deaf and published it in Madrid in 1620. This great scientific achievement was enlarged and enriched by Jacob Roderiques Pereira, a Spanish Jew, who received his initial suggestion from Bonet's manual and probably the incentive for forty years' service to the cause of the deaf and dumb, from a congenitally deaf and dumb woman he met at Bordeau, France. Pereira extended Bonet's work to a dactology of forty signs and believing the deaf should be trained to see and feel the speech they could not hear, he taught by tactile fremitus and by the method of lip reading which he invented. Pereira's work was not only educational to his patients, but to the public. He was awarded a pension by Louis XV of France, and in 1759 made a member of the Royal Society of London. As achievement inspires to greater achievement the elaboration and application of the special pedagogical methods evolved by Bonet and Pereira for the deaf and dumb to the needs of the feeble-minded followed as a natural scientific sequence.

The life work of Bonet and Pereira having been done in France, the influence of their teaching was most effective in that country. Jean Jacques Rousseau, a neighbor of Pereira, and a friend of David Hume, the historian, brought out in 1762 his "Emile." This philosophical treatise on education declared our first teachers of science to be our hands, our feet and our eyes. Fortunately for the cause of the feeble-minded — Jean Itard, physician to an institution for the deaf in Paris, became interested in the psychological discussions of the day and determined to settle the question as to whether ideation is innate or produced only by sensory stimuli. Itard spent five years devising exercises and teaching the celebrated "Savage of Aveyron," an idiot found in the woods. The mistaking an idiot for a savage is not a compliment to diagnostic ability, but the result of Itard's painstaking work proved that even idiots can be benefited by clinical observation and continued suitable instruction. The true significance of Itard's work was appreciated by Edouard Seguin who was born in France in 1812.

Seguin had studied medicine under Itard and had been a pupil of Esquirol, the psychiatrist, who early defined idiocy as a condition of arrested development. In 1837, at the age of 25, Seguin founded in Paris the first successful school expressly established for the training of idiots. He modified, systematized, and elaborated Itard's system and became the inspiring prophet of the best modern work with the subnormal. In 1846 Seguin brought out his great book "The Moral Treatment, Hygiene and Education of Idiots and Other Backward Children." His work was crowned by the French Academy and commended in an autographed letter by Pope Pius IX. In 1848 Seguin emigrated to America, where he became the first superintendent of the Massachusetts School for the Feeble-minded; the first president of the American Association for the Study of the Feeble-minded. The mental attitude of the people in some localities being right for the reception of suggestions, his influences toward provision for the care of the feeble-minded was very considerable in several states.

The efforts of scientists in Paris in behalf of the feeble-minded were observed and emulated by the other European countries. In 1842 Dr. Gugenbuhl established an institution on the cottage plan for cretins at Abdendburg, Switzerland. At about the same time Dr. Saegert opened a school for the feeble-minded in Berlin. A training school for idiots was founded by the Misses White in Bath, England, in 1846. In the year of 1846, the white race in America was engaged in the gigantic task of inhabiting a continent. Human scalps were of uncertain tenure in many parts of our country; the covered wagon was extending the course of the empire westward; a war was being fought with Mexico, which was to result in the addition to the United States of extensive domain to be organized and settled. The public mind was about to be diverted from educational pursuits and sociological organization by the rush to the gold fields of California. The forbidding rumble of national dissension over the slave question was growing louder and the new waves of immigration to our shores were to be drawn into a great and devastating Civil War. The public had not yet assumed the function of affording to normal children education beyond the elementary grades. In the denser centers of population the insane were beginning to receive recognition and pass from home care to public care. In 1846 there were no schools or institutions, either private or public, for the care of the feeble-minded in the United States. Feeble-minded persons were cared for in their homes, in the town or county poor farms, in asylums, in jails or prisons, and sometimes this class served sentences for acts whose meaning they did not even comprehend. There was, however, a growing sense of their presence and of their needs. Sporadic attempts were made by 1818 to train a few feeble-minded at the American Asylum for the Deaf and Dumb in Hartford, Connecticut, and in 1837 at the Perkins Institute for the Blind. On January 22, 1846, on resolution of Judge Byington, the Massachusetts Legislature created a commission on whose recommendation an experimental school for the feeble-minded was established at the Perkins Institute for the Blind in Boston under the supervision of Dr. Samuel G. Howe. This attempt was not abortive, but continuous, and in 1850 the experimental school was incorporated as Massachusetts School for Idiotic and Feeble-minded Children. In July, 1848, a private school for the feeble-minded was established at Barre, Mass., by Dr. Hervey B. Wilbur, a man of great ability who contributed much toward the development of the care of the feeble-minded. A resolution to establish an experimental school for the feeble-minded was presented to the New York Legislature January 3, 1846, by Dr. F. P. Backus, but this and similar resolutions failed of passage until 1851. This experimental school became the State Asylum at Syracuse over which Dr. Hervey B. Wilbur long and ably presided. After his death in 1883, the institution's name was changed to Syracuse State Institution for Feeble-minded Children and Dr. J. C. Carson was its superintendent for twenty-seven years.

Several states now followed the example of Massachusetts and New York in providing for the care of their feeble-minded. Pennsylvania took up the private enterprise of J. B. Richards and established a state aid training school for feeble-minded children at Elwyn in 1853. For years this school was presided over by Dr. Isaac N. Kerlin who was followed for another long period by Dr. M. L. Barr, men of keen insight and literary attainment. In 1857 Ohio provided liberally for the care and training of her feeble-minded by a large state school at Columbus of which the distinguished Dr. G. A. Doren was superintendent for more than thirty years. Within the next decade Connecticut, Kentucky and Illinois had recognized the need of this long-neglected class and established state care.

It is proper to mention here the influence of the pedagogical ideas of Seguin and Howe on the institutional nomenclature. The early workers with the feeble-minded were very sanguine in their belief in the benefits derived from physiological education and training. They properly regarded the establishment of schools for the feeble-minded as a necessary and heretofore omitted link in the public school chain of education; hence the majority of all institutions for the care and training of the feeble-minded in America have been designated "schools."

With increasing political and economic stability, social science demanded and witnessed a gradual extension of the care of the feeble-minded. The superintendents of the early schools were, by virtue of long association with this class and intuitions born of their experience, expert diagnosticians, but there was in existence no standardized diagnostic formula which could be easily taught to others. This great scientific gift which was to change our conceptions of mental growth and profoundly affect the entire field of pedagogy was to come to the world through Doctors Alfred Binet and Thomas Simon, sons of the land of Itard and Seguin.

Alfred Binet was born in Nice, France, July 11, 1857. His mother was an artist, his father a physician. He first studied law, then medicine and was soon absorbed in experimental psychology. The thesis for his degree was written on a study of the "Sub-intestinal Nervous System of Insects." Binet established France's first psychological laboratory in 1889, became its director in 1894 and one year later began publication of "L'Anne Psychologique." He became an expert in the anthropometric measurements of children and in child psychology.

In 1904 the French Minister of Public Instruction appointed Binet a member of a commission to organize classes of backward children in the public schools. Anxious to do no child an injustice and realizing the lack of a standard diagnostic formula for intelligence Binet began the work of creating the Binet-Simon measuring scale of intelligence. Working in collaboration with him was his friend, Dr. Thomas Simon, an alienist of Paris, who was born at Dijon, July 10, 1873. Simon, in 1900, had presented a thesis on the correlation of physical development and intellectual capacity, and had extensive insane hospital experience. After long experimentation and trial their measuring scale appeared in the pages of "L'Anne Psychologique" in 1905, and in a higher state of completion in 1908.

Newly discovered knowledge has not always crossed the Atlantic Ocean within a few brief months from the date of its discovery. To the retrospective memory of those now in the work it seems a happy coincidence that through the vision of Superintendent Edwin R. Johnstone, a psychological research laboratory was created at Vineland Training School, Vineland, New Jersey, and in the fall of 1906, H. H. Goddard, Ph.D., was called as its Director. The following summer Dr. Goddard went to Europe for study and brought back with him the Binet-Simon scale of 1905. When the revised scale appeared in 1908, Dr. Goddard translated it, applied it to hundreds of normal and abnormal children, made additions and modifications to meet American needs and presented his work to the American Association for the Study of the Feeble-minded, and other societies. From this laboratory also came the "Kallikak Family" and other informative family heredity studies.

The measuring scale of intelligence created by Binet and Simon, amplified and propagated in America by Goddard, was seized upon with avidity by psychiatrists and psychologists throughout the country. It was modified and written about, tried by controls, applied for a decade after its appearance by such men as Professor Robert M. Yerkes of Harvard, to whom Binet's work was an inspiration to his point scale; by Rudolph Pintner, Fred Kuhlman, S. D. Porteus, who created a maze and other tests, J. E. Wallace Wallin, William D. Healy, Guy

M. Whipple, Professor Lewis M. Terman of Stanford University, and many other scientists of note.

An effort on the part of these workers to relieve the mental test of the possible bias of language or any acquired knowledge, led to the creation of many pictographic, manual, mechanical, group and occupational tests.

Probably Fred Kuhlman was first in this country to see the possibilities of translating the mental age into a decimal in relation to the chronological age, to find the intelligence quotient. Especially adapted mental tests used for determining the mental condition of millions of drafted men during the World War, were of inestimable value not only in preventing certain mental breakdown and national expense, but in revealing new ideas of intelligence levels.

It may be assumed that in spite of Binet's statement that the scale is made to aid observation but by no means to replace it, this fact has sometimes been forgotten. It is further evident at this date that the revisions of H. H. Goddard and of Lewis M. Terman are the most extensively used; also that the scientific discoveries of Binet and Simon are greater in their effect on national ideation than even in their practical application.

From 1904–1908, coincident with the work of Binet and Simon in France, was the extensive inquiry of the British Royal Commission, which contribution gave much new evidence, especially by defining the different grades of mental deficiency and in estimating their numbers.

In 1910 Dr. H. H. Goddard, as member of a committee of the American Association for the Study of the Feeble-minded, suggested the term "moron" as a suitable name to be applied to the high-grade mentally defective person. Dr. Goddard's suggestion was adopted and also a classification of idiots, imbeciles and morons based on mental age.

Among special lines of investigation of significance should be mentioned the work of Charles P. Davenport, Cold Springs Harbor, New York, in 1912, which was reported in his paper "The Origin and Control of Mental Defectiveness." His researches with the Mongolian types have added somewhat to our knowledge of that particular class of defectives.

In that field which one would naturally suppose to be richest in revelation the scientific workers have not been numerous. Of foreign pathologists D. M. Bourneville of Paris and C. Hammarberg of Sweden, are prominent contributors.

In America A. W. Wilmarth reported to the American Association for the Study of the Feeble-minded in 1890 his pathological researches on "One Hundred Brains of Feeble-minded

AIRPLANE VIEW OF FERNALD STATE SCHOOL AT WALTHAM

Children." The Waverley Researches of Dr. Walter E. Fernald in collaboration with E. E. Southard and Annie E. Taft were published in 1918.

Of the integrating forces and purposes furthering the care of the feeble-minded should be mentioned two organizations — the American Association for the Study of the Feeble-minded and the National Committee for Mental Hygiene.

In 1876 the day of experimental schools had passed. The initial move by the State of Iowa toward the care of her feeble-minded was for a permanent institution. The self-reliant superintendents of that day believed their beneficent labor of developing juvenile aments of more importance than that of caring for adult dements, and for the furtherance of the work decided to form an association. They accordingly met at the Pennsylvania Training School, Media, Pa., June 6, 1876, and organized the Association of Medical Officers of American Institutions for Idiotic and Feeble-minded Persons. Dr. Edouard Seguin was made President, Dr. I. N. Kerlin, Secretary-Treasurer. Dr. Kerlin was followed in the office of Secretary and Treasurer by Dr. A. C. Rogers, Superintendent at Faribault, Minn., who also faithfully edited the papers and proceedings of this Association up to the time of his death, January 2, 1917, and in the papers of this organization may be found much of the existing information on this subject. In June, 1906, the name of the organization was changed to the American Association for the Study of the Feeble-minded.

The forces working for mental hygiene had been gathering momentum for many years before this term was suggested for their organized activities by Dr. Adolph Meyer. The American Psychiatric Association was formed as early as 1844. From their origins these societies had held annual meetings, studied their problems and published their findings. The knowledge of these two bodies had not, however, properly reached the general public for want of a suitable medium. Such a national liaison organization was to be brought into being through the experiences and efforts of Clifford W. Beers. Mr. Beers is a native of Connecticut and a graduate of her noted college. Recovering from a mental illness he was imbued with the feeling that a permanent agency for reform and education in the field of nervous and mental disease was one of the great needs of the day. He wrote and in March, 1908, published a book entitled "A Mind that Found Itself," which was widely read. Mr. Beers then wrote a prospectus of a national committee, which prospectus was held in abeyance until after the Connecticut Society for Mental Hygiene was formed, May 6, 1909, and a few months later through the active and sympathetic co-operation of a group of great men and women the National Committee for Mental Hygiene was founded February, 1909.

For twenty years this organization has been systematically gathering statistics and information, distributing thousands of pamphlets to all parts of the country, making extensive surveys, establishing child guidance clinics, promoting a better legal understanding with mental defect and disease, encouraging psychiatric, psychological and sociological education, co-ordinating state and national movements in behalf of the mentally defective and diseased, striving to create public interest in mental health, and extending its chapters throughout the world.

The decade beginning 1910 witnessed many evolutionary developmental phases in the care of the feeble-minded. There was a marked increase in the number of state and private institutions established; the development in the impetus to colonization notably by Dr. W. E. Fernald of Waverley and Dr. Charles Bernstein of Rome, New York; the placement of trained, high-grade feeble-minded parolees under supervision was inaugurated by Dr. George L. Wallace of Wrentham State School and Dr. Charles Bernstein of Rome and Dr. W. E. Fernald of Waverley. By 1920 75% of all the state schools for the feeble-minded in the United States were placing parolees at gainful occupation.

The first special class in this country was established in Providence, Rhode Island, in 1896, but the growth of this work in Europe had been much more rapid than in this country, until it received the impetus and influence of the idea of mental age levels of intelligence. From 1910 on, the extension of this work was rapid. Nineteen twenty-nine recorded special classes for backward and feeble-minded children in 109 cities in 29 states. During this decade many states adopted sociological laws such as laws prohibiting or annulling the marriage of the mentally diseased and defective, and eugenical sterilization. Sterilization was first legalized in Indiana in 1907. In 1906 Dr. H. H. Laughlin of the Eugenics Record Office, Cold Spring Harbor, New York, made a statistical summary of sterilizing laws in twenty-three states, compiled the operations done to date and outlined what he considered a constitutionally acceptable law.

The development of the care of the feeble-minded in the United States is most clearly illustrated by the statistics of the period from 1890 to 1916, which demonstrated that while the population of the United States increased 26% the feeble-minded and epileptic under care increased 753%.

As an egg must be incubated before it is hatched and an idea maturated before it is expressed in action, it seems in historic retrospection that an actor is usually preparing while the stage scenery is being arranged.

From 1882 until 1887, while the Massachusetts School for Feeble-minded was developing quietly in South Boston, Walter Elmore Fernald, a native of Kittery, Maine, and a graduate of Bowdoin Medical College, was assistant physician at the State Hospital, Mendota, Wisconsin, unknowingly preparing himself for the superintendency of the Massachusetts School to which he was called in 1887. For the next thirty-seven years this superintendent was to labor prodigiously in an ever-widening field with the noble purpose of the betterment of his fellow-man; to become an expert and an internationally known leader in his profession.

His first great work was that of building a new institution for the Massachusetts School for Feeble-minded on its present site, and of making this school, in construction and administrative efficiency, in education and training, in care and kindly spirit, a model for the instruction and imitation of the thousands who visited it annually. Thinkers and educators of ability from other states visited Waverley only to return home and send for Dr. Fernald to talk to their committees and advise their state in making provision for the care of their feeble-minded.

In 1891 Dr. Fernald established a free weekly out-patient clinic at Waverley in which, years before the discovery of the mental rating scale, were examined thousands of patients. These clinics were so organized that each member of the staff participated in the examination. The results were summarized by Dr. Fernald who examined the patient and interviewed the parents. This work led, in its extension, to the community clinic. This work was also the forerunner of the special class in the public schools, for it often happened that the parents wished to keep at home the child whom the clinic had proved to be mentally deficient and ofttimes such child had to be kept at home for want of room in the institutions.

During the pioneer years of institutional care the proportion of children received on account of idiocy and bad behavior was large, and the opinion gained of this class was consequently poor. During those years the opinion prevailed that all feeble-minded persons should be segregated for life. Dr. Fernald early named the troublesome variety, referred to by the early superintendents as moral imbeciles "defective delinquents."

In 1916 he made a survey of all who had been discharged from his school for a period of twenty-five years. In publishing his findings he pointed out that there were good feeble-minded and bad feeble-minded, and thereafter often referred to the older views of life detention as "the legend of the feeble-minded."

Dr. Fernald early accepted and utilized the amplified work of Binet and Simon, but shortly maintained that no good judge should render a decision until all the evidence was heard, and that no physician should make a diagnosis and ignore any of the symptoms. On this reasoning he worked out, and in 1913 demonstrated his "Ten Fields of Inquiry" which have been generally accepted as of great diagnostic value.

If these few accomplishments illustrate the thoroughness of this leader they convey little comprehension of the extent of his work. Dr. Fernald was continually instructing and inspiring new men and women in the field to investigation. He collaborated extensively with many — as an instance the work of his "Waverley Researches" which were carried on for fifteen or more years. He was President of the Massachusetts Society of Psychiatry, the New England Society of Psychiatry, the Boston School of Occupational Therapy, a member of the Executive Committee of the Massachusetts Society for Mental Hygiene from its beginning, Chairman of the Committee of Mental Deficiency, and a member of the Executive Committee of the National Committee for Mental Hygiene. He was Associate Professor of Mental Disease at Tufts College, lecturer on The Mental Diseases of Children at Harvard University Graduate School, a member of the Massachusetts Vice Commission, President of the American Association for the Study of the Feeble-minded in 1893 and again in 1924.

He was sponsor for the law relating to the census and registration of the feeble-minded in Massachusetts. He was a member of the Committee of the American Association for the Study of the Feeble-minded which collaborated with the National Committee for Mental Hygiene to co-operate with the United States Government in producing our present card and system of the census taking for the feeble-minded and epileptic.

He was sponsor for the law permitting the parole of feeble-minded from the state schools; a law legally recognizing the defective delinquent and making separate institutional provision for them; a law requiring that an inquiry shall be made into the mental status of prisoners; a law establishing psychiatric clinics for the examination of retarded children in the public schools. Having sponsored this last-mentioned law Dr. Fernald looked forward with zeal and hope to realizing its operation, and the last week of his life, preceding his short illness, was given to intensive instruction in diagnosticating feeble-mindedness, to a class of physicians from other Massachusetts state institutions.

As a young man Dr. Fernald knew intimately the able and well-chosen pioneer superintendents, such men of long service as Seguin, the Wilburs, Kerlin, Doren, Osborne, Wilmarth, Brown, Knight, Richards, Carson, Rogers, Smith, Fish and Beaton of Orillia, Canada.

Being a ready listener with an extremely retentive memory his thirty-seven year period of service privileged him to be the synthetizer and transmitter of an invaluable fund of knowledge and experience from the old men of his youth to the young associates of his maturity.

No history can provide us a more sublime inspiration than the acts and living example of a monarch in thought's dominion who has devoted his life to the love and care of his fellow-man.

TEMPLETON COLONY

By Ransom A. Greene, M.D.,
Superintendent, Walter E. Fernald State School

According to a report in October, 1918, by the New York Committee on Feeble-Mindedness, consisting of Mr. Homer Folks, Mr. R. Bayard Cutting, Miss Eleanor Johnson, Mr. Franklin B. Kirkbride, Miss Maude E. Miner, Prof. Paul Monroe and Dr. Thomas W. Salmon, there is a foreword stating that "in the last few years there has been considerable attention devoted to the possibility of supplementing ordinary institutional care of mental defectives by the so-called colony system." The term "colony" is subject to definition as devised by this committee. They make the following stipulations as to their determination of what constitutes a colony and say that "any extra-institutional group of defectives of any grade working under supervision either as contributing to their support by the State or for personal remuneration, or both, and that such colonies may be of the farm, reforestation, industrial or domestic type."

In their history of colonization they attribute the first extra-institutional group of defectives as belonging to the State of Indiana and that colonization was begun at the Indiana School for Feeble-Minded Youth in 1893 on leased land, and afterwards permanently established on a farm purchased by the State in 1895.

In point of time, Massachusetts stands next in order, but the report states that the results achieved at the Templeton Colonies under the leadership of Dr. Walter E. Fernald stand second to none. They also state that New Jersey is third and that "it began the experiment with the colony plan in 1913 with the opening of the Menantico Colony in connection with the Vineland Institution."

I find, however, in searching the literature that in the report of the Trustees of the Massachusetts School for Idiotic and Feeble-Minded Youth dated 1879 and signed by the Assistant Superintendent, George G. Tarbell, he says, "I cannot close this report without again calling your attention to the great need of more room for out-of-door work for our boys." The institution known as the Massachusetts School for Idiotic and Feeble-Minded Youth, was then located in South Boston. In the report of Dr. Tarbell for 1880, I find the following statement: "Before closing my report I must again respectfully but earnestly call your attention to the subject I dwelt upon in my last report, the urgent need of land upon which to employ our larger boys." He further states that while "they are feeble-minded, yet, I believe, after carefully looking over the individual members of our school that twenty per cent of our boys could, under proper supervision, do work enough upon a farm to pay for their keeping," and while the question might instantly arise "why they are not kept at home: the answer is that they do not there have proper supervision. Perhaps they have no home but the almshouse; they run in streets; they have no occupation; they are made worse by the gibes and teasing of other boys."

In the report of the Trustees of this school for feeble-minded and idiotic children in 1881, a statement is made that an "estate in the country will make the best home for unimprovables is too obvious for argument." In this same report mention is made of a new farm purchased at a cost of $5,000. which has been acquired, partly in the town of Medfield and partly in the town of Dover, within about two miles of Medfield Village. It is quite obvious from these reports that the intentions of the Trustees of the Institution at that time were to ultimately move the entire institution to this location.

In the report of 1881, signed by Dr. George G. Tarbell, then assistant superintendent, he states in reference to the farmhouse purchased at Medfield and Dover that the building "will hold fifteen or twenty boys. Any number more than that cannot be properly cared for in it; and I would suggest that for the present no boys be sent there who are not capable of doing some useful work, even if little. I would also take this opportunity of urging that the present buildings should never be enlarged. The house is capable of holding all the boys that a farmer can employ advantageously." He also says that "perhaps it is a little premature to prophesy concerning the farm but I have no hesitation in expressing my belief that in a very short time the farm, if well managed, will provide all the milk, vegetables and farm products used in the whole institution without other labor than that of the boys."

In the report of the Trustees, dated 1883, it is stated that the "Howe Farm at Medfield has accommodated fifteen boys during the last summer but only nine or ten of them will probably remain there during the winter because of the absence of outside work and because a few of them may be more improved by school discipline."

In the report in 1885, the Trustees stated that "in 1881, also, the accommodations and scope of the institution were increased by the purchase of a farm in a beautiful and healthy location, partly in Medfield and partly in Dover, about two miles from

Medfield Village. Training to farm labor is everywhere recognized as a desirable or even essential feature in the course of instruction at institutions for idiots. Our trial in this direction, taking the four years together, has satisfied us that we did well to make the purchase. Most of the boys sent to the farm have been boys who have had considerable instruction and training at the school and whom, did we not possess the farm, we should have been obliged to discharge. On the farm they have learned to work and that they must work. And to work, before idiots go out into the world, should become with them a habit, so far as possible; and it seems that the routine of farm labor is that to which they most easily become accustomed."

From the above historical facts as presented by authentic reports of the institution, it is quite obvious to me that this attempt on the part of the Trustees and the Assistant Superintendent of the Massachusetts School for Idiotic and Feeble-Minded Youth was a previous attempt at colonization to that of the Colony in Indiana as attributed by the New York Committee. This was twelve years at least ahead of the Indiana Colonization.

Quoting from the report of Asbury G. Smith, Superintendent, dated 1885, he states that "at the Howe Farm in Medfield, the progress so gratifying at the beginning of the year was, in August, seriously interrupted by the appearance of disease; somewhat among the boys but chiefly in the family of the farmer, causing very serious results. Several careful inspections of the buildings and premises have been made to ascertain if any local cause for the origin of the disease existed. Everything practicable has been done to place beyond a doubt the possibility of the existence of any source of trouble. The water has been analyzed and found to be free from any evidence of pollution. Inasmuch, however, as old wells may be objects of suspicion and at any time become impure, it is recommended by the Health Officer of the State Board of Health, Lunacy and Charity, that a new well be sunk farther away from the buildings and farther up the slope above the house. There are additional reasons why this should be done, for in seasons of drought the present supply fails altogether and all the water has to be carted from a brook about half a mile away. The work done at the farm has been in the main satisfactory and we have seen that the large boys could perform well much of the labor in caring for the stock and crops."

In the report of 1885, signed by Asbury G. Smith and by the trustees, there is much evidence presented as to the necessity for abandoning the school in South Boston and the establishment of a new school in the country.

In the year 1887 in the report signed by the trustees it is recorded that the trustees have elected Walter E. Fernald, M.D., for the first resident superintendent of the school and he took charge on the 19th of October, 1887.

In this same year the Legislature made an appropriation of $20,000 to purchase a new site for the school. This had long been regarded by many of the trustees as the most pressing want of the institution and two estates in three lots adjoining each other in the easterly part of Waltham, not far from the Waverley stations of the Fitchburg and Massachusetts Central Railroads and containing a little more than seventy-two acres, have been purchased for $12,211.98.

In this same report it is stated that "the farm at Medfield has proved how much can be done for such boys as ours by employing them out of doors, and when its work can be transferred to Waltham and immediately connected with other departments it will become more and more effective. We are glad to report in favor of the present management of the farm as judicious and faithful. It is no slight charge, and success in it deserves cordial recognition."

I think that the above is a rather interesting bit of history in connection with the evolution of colonization in general and particularly significant as to colonization in this institution in particular. Colonies or colonization depend upon the definition of what is meant by colony, and various colonization attempts and experiments have been made in various countries and various States for general, specific and individual purposes.

We have the experiments of colonization at Gheel for the Insane in Belgium and the Bielefeld Colony for Epileptics in Germany, and in our own State the Hospital for Epileptics at Monson, the colony for Insane at the Gardner State Colony — and other parent Mental state hospitals have branches that they call colonies. Colonies and colonization are broad subjects. They are subjects that have been given a great deal of discussion and a great deal of experimentation has been carried on with reference to all three of these types of mental disease, the psychoses, the epileptics and the feeble-minded.

In the first Annual Report by Dr. Walter E. Fernald, the following note is of interest. "The farm at Dover has been very efficiently managed by Mr. Montague. Excellent crops have been raised in spite of the backward and unfavorable season. Since the early part of the summer, the school has been entirely and amply supplied with fresh vegetables and potatoes raised on our farm. One or two large wagon-loads of produce have been sent in each week. Our larger boys have been provided with constant occupation in the care of the stock and in the cultivation of these crops. On a recent visit to the farm I found every boy at work in the fields."

In 1889 the farm at Dover was sold. The boys employed at Dover and a part of the school at South Boston were moved to Waltham.

For a period of two more years the institution consisted of the so-called custodial and training school at South Boston and the beginnings of construction at Waltham. On December 28, 1891, all the inmates from the farm at Medfield and Dover having been moved here, the entire transfer from South Boston was made and the old buildings at South Boston were abandoned on this date.

In the report of the trustees in 1896, development having been completed in Waltham to such a degree and the type of admissions of such a character, including improvable cases who return to the community and those of the imbecile type who were growing older physically, it was apparent that some outlet for them must be provided and to quote from this report: — "What, then, shall be the remedy, there being no room for further increase of members in our present location? We suggest this: that the Commonwealth shall purchase a tract of wild land of not less than 1,500 acres; that from time to time, as occasion shall require, there shall be erected upon this land dwelling-houses, barns, storehouses and shops, small rather than large, and of moderate cost; and that such estate, at first so equipped only to a limited extent, shall be appropriated to the reception, care and maintenance of adult male cases that shall have received a course of training at the school at Waltham. Let our purchase be a wilderness. What is wanted is a place for work. When we take it, let there be no trace of cultivation. The desert shall rejoice and blossom like the rose. Another fifty years or more shall pass and a fair domain with its shapely walls, fine roads, green fields, gardens and orchards, the production of the toil of these unfortunate boys and men will be one of the glories of the Commonwealth."

It is interesting to note that this report having been signed by the Board of Trustees contains the name of Dr. Francis J. Barnes, who had been appointed to the Board of Trustees in 1893. He is, at the present time, the President of the Board of Trustees. In all these years he has faithfully served the Corporation and the Board of Trustees and is invariably present at the meetings.

In the report of 1896, the following excerpt is from the report of Dr. Fernald. "The experience of the Epileptic Colony at Bielefeld in Germany and the proposed plan of the Craig Colony for Epileptics in New York are very suggestive as to the line to be followed in making further provision for the feeble-minded in this State. A very large tract of low-priced land, at least 1,000 or 1,500 acres, might be secured in one of the sparsely settled parts of the State. No matter if the land is rough and rocky and covered with bushes, stones and stumps, — the better opportunity to utilize the capacity of this class for doing rough work. The estate should have a good water supply, an abundance of building stone, sand, gravel, clay for brickmaking, etc. On this land construct a plain, simple building to accommodate, say, 100 inmates. To this building transfer 100 of our able-bodied adult male inmates. This force could be set to work preparing for the next building. They could clear the ground, do all the levelling and grading and excavate the basement. They could build the roads, dig the trenches for water pipes and sewers, quarry the building stone and haul the stone and sand required for the building. If a little foresight was used, a locality could be selected where good clay for brickmaking could be obtained. The wood cut off the woodland would furnish fuel for burning the brick, all the work being done by the boys. The cleared land would be reclaimed and changed from wild woodland, worth practically nothing, into good grazing or perhaps tillage land. The cost of construction of the buildings necessary could be reduced to the lowest terms by the use of the building material already on the land or manufactured there, and by the utilization of the labor of the inmates in the rough work of construction. At no time in the history of an institution is the labor of its inmates so profitable as during the period of construction. The buildings themselves should be exceedingly plain and simple. What intrinsic reason is there for building a more expensive structure than middle-class people build for their own dwellings? As soon as the second building is completed, a second group of trained workers could be transferred from the school. Other buildings could be added from year to year, as needed. Large numbers of inmates would not be collected in any one building. The different groups of inmates would live in relatively small homes, practically independent of each other, each group supervised and cared for by competent attendants and officers, under the direction of the general superintendent. One group of boys would work in the vegetable gardens located near the house where they live. Another group would have the care of the barns and the stock, etc.

The milk, beef, potatoes and other vegetables, poultry, eggs and other food products ought to be produced within this community."

In 1897, the legislature appropriated a sum of $20,000 for the purchase of additional land for the use of the school.

In 1899, the purchase of land for Templeton Colony was completed, and consists of a territory three miles long and a mile more or less wide, consisting of seventeen parcels of land and containing in all 1,660 acres, lying mostly in Templeton.

In 1899, Dr. Fernald recommended that suitable provision be made for the transfer of 100 able-bodied males to our Templeton Estate in the spring of 1900.

Forty-seven boys first went to Templeton in two detachments, the first early in May and the second in July in 1900. "Since their arrival they have lived, as it were, in a camp, taking their meals in a temporary shed open on one side to the weather and sleeping in a barn. One of the old farmhouses has served for an office building. The boys now take their meals in it temporarily and are housed at night in an old dwelling house near by."

In this same year the property at South Boston was sold. Thus it has come about that a cycle of history has repeated itself. The original school at South Boston, the obvious necessity for the employment of the trained feeble-minded and the outlet provided for this by the purchase of the farm and land at Medfield; the construction of the new institution at Waltham and the necessity for the outlet for the trained feeble-minded who have become adults but incapable of returning to community life; the purchase again of a farm in the western part of the State; the transformation of this farm from the roughness in which nature left it and its cultivation by the labors of these boys into a utilitarian and productive use for the parent institution at Waltham. From time to time there have been added to the original purchase of the Templeton Colony various tracts of wild land until, at the present time, we own about 1,875 acres. This is divided into four colonies, two colonies housing fifty inmates each and two housing one hundred each.

In the Trustees' Report for 1903, the following statement is made: — "A few years since, finding that there were no suitable places to which many of our boys graduating from the school department could be sent, we founded our colony at Templeton for big boys and men, — a repetition on an extensive scale of our former experiment at the Howe farm," which proclaims that the Howe Farm was actually a Colony.

I think it well at this point to quote from an article in the *Boston Sunday Globe* of June 3, 1906, in which the writer in

NARRAGANSETT COLONY
One of the four groups at Templeton Colony

describing Templeton Colony attributes the idea of this Colony as originating with Dr. Walter E. Fernald and that "it had been the experience of the superintendent that while the adult feeble-minded could be developed to a degree of usefulness they could not be depended upon to earn their living in the outside world. The plan adopted at Templeton Colony was to construct a plain simple building to provide for fifty inmates. The farm was selected with an idea to a good water supply, an abundance of building stone, sand, gravel, clay for brick-making, and wood for fuel in burning brick and heating the buildings. The result at Templeton the first summer showed that the work of the wards exceeded the average amount of work done in the same length of time by any equal number of laborers engaged upon a public work. In the preliminary work with shovel, pick and crowbar they not only excelled but were cheerful and happy. Some were engaged in laying pipe to bring water from a reservoir of their own construction at the top of a hill, while others were laying cellar walls." That they were healthy is evidenced by the fact that in the first eighteen months the total doctor's bills for the Colony amounted to $1, and paid for the dressing of a cut finger.

The following description from the Superintendent's Report for 1912 is of interest as to the accomplishments of a colonization for this type of mental defectives. "The farm colony at Templeton continues to demonstrate the desirability and feasibility of housing able-bodied male imbeciles in simple, low-cost dwellings, and of providing heathful, profitable utilization of their labor in the clearing of wild land and the raising of crops. We have shipped thirteen full carloads of potatoes and other vegetables to the parent school at Waverley. Among our farm products this year were 873 barrels of apples, 304,405 quarts of milk, 6,513 bushels of potatoes, 16,224 pounds of pork, 17,000 pounds of beef, 661 barrels of turnips, 47,624 pounds of cabbage, etc. Besides raising all the milk needed at the colony we are raising 61 head of young stock to be added to our herd of milch cows at Waverley. The farming operations of the entire colony under Mr. Donnell's skillful supervision have been raised to a high state of efficiency. It would be hard to overstate the content and happiness and well-being of the boys at the colony."

The original purchase of land for Templeton Colony was at the rate of $10.00 per acre, and the construction for housing as estimated up to 1914, including the land, was at the rate of $378.00 per capita to provide for three hundred inmates.

At the present time (1929) we have at the Colony 316 patients. The average mental age of these inmates by psychological tests made within a very short time is somewhat less than six years.

The varieties of occupations furnished make the Colony a placement that is utilitarian, economical and most satisfactory for boys of this mental age who have reached physically the stature of an adult but retain the mind of a child. I am sure that it is an ideal method for their care.

To summarize: The Colony emphasizes the vision of Dr. Fernald, his ability as an educator, and his humanitarian attitude for the feeble-minded. The results show his accomplishments as an administrator. The example he has set and the influence he has cast through this work alone — it is impossible to estimate — either as to the extent it has reached in area or the numbers of human beings it has influenced.

As stated in the beginning of this historical sketch of the Templeton Colony, colonization is of many types and varieties. It has been my experience to have had many contacts with colonization of various kinds for the insane, the epileptic and the feeble-minded, and while I am unalterably opposed to the colonization idea in general, the colonization of the feeble-minded who have been trained and are of such a type that the limit of training is not sufficient to warrant their return to community life in such a Colony as Dr. Fernald devised at Templeton meets the needs in a most ideal manner.

The Future. In the last year we have added to our armament at the Colony electricity for lighting facilities, including all houses, dormitories and barns. Some power equipment has been added principally, as yet, for the purpose of pumping water which has previously all been done by hand. In the last three years we have been greatly aided by the addition of heating units through which we have economized on the time spent in labor by the boys in gathering wood to keep warm in winter. All cooking, as yet, is carried on by means of wood fires but the heating of the houses is done largely by steam, and within a short period of time the cooking and heating will all be accomplished by steam thus releasing the labor of boys for increasing the pasturage for cattle.

We have by recent purchases of land added lots, so that at the present time there are no encroachments on our property lines to possibly interfere with our seclusion of the inmates and the exclusion of outsiders through the necessity of giving a right of way for other reasons. We have also by recent purchases protected our water rights so that we can anticipate future developments both for power and water supply. Inevitably, in the future there will come a repetition of history — and with the increasing of colonization and the fertilization of the soil, there will come a time when it will be necessary to install driven wells or other water supply that will be safe for domestic use.

The area of land we now hold can be, with the present number of population, increased in its cultivated acreage, adding a much needed land for the growing of hay and at the same time, with the use of electricity and steam furnished by coal, conserve an already very valuable lumber tract. This region naturally lends itself to the growing of timber because of the fact that it is almost surrounded by forestation fostered by the Commonwealth. Lumber that can be grown on this land can be economically utilized at this institution. In this present year, we have lumbered from our own land 150,000 feet of pine and hard wood that we will saw in our own mill and under our own power into board feet that are to be used by the parent institution for construction. There seems to be sufficient area of land to furnish economically lumber for our projects for ages to come, as far as our own institution is concerned, and possibly be a source of supply for other institutions.

The plea for an outlet for utilitarian and useful labor for the inmates, as indicated in the early reports, is provided in this colony for years to come in the reclamation of land and in the scientific lumbering of our forested areas, and will furnish ample outlet for the development of the type of mentally defective that will accrue in this institution — even though the institution increases its size to two thousand bed capacity. I would be very much opposed to increasing the capacity of our Colony, for the additional personnel for an increased number of patients would demand hospital facilities, infirmary care, culinary store, laundry engineering and mechanical facilities that would create an institution, we would again begin our "Round Robin" and cease to be a Colony and become another institution.

DEVELOPMENT OF INSTITUTIONAL CARE FOR THE FEEBLE-MINDED

By A. R. T. Wylie, Ph.D., M.D.,
*Superintendent, Institution for Feeble-Minded,
Grafton, North Dakota*

The institutional care of the feeble-minded in the beginning was furnished by the insane asylums. Indeed this is not surprising, since the term idiotism or idiocy included not only what we now know as idiocy but primary dementia as well. Pinel defines idiotism as an obliteration more or less complete of the functions of the understanding and of the affections of the heart. (1 — op. cit., p. 10.) And from the cases cited in his *Traité Medico — philosophique sur l'aliénation ou la Manie,* it is evident that when he used the term idiotism he had more in mind mental conditions which we designate as schizophrenia than idiocy. It is but natural then that the feeble-minded should be cared for with the insane and given the same treatment. Furthermore, when the feeble-minded became so anti-social in their conduct and tendencies that they could not be cared for in their families or in the community in general, this was the only relief that could then be afforded them. And even today this method obtains in States where special institutions are not available.

Insanity up to this time had been considered a dreadful plague and the insane "were considered in the main, harmful and malicious creatures. They were imprisoned and confounded with criminals of all sorts; in short they were treated most inhumanly. Nearly everywhere they were chained with irons and heavily fettered, were kept in dark, narrow and unhealthy prisons. There they dragged along a miserable existence, given up to the brutality of the gaolers who had not the slightest pity for them; there they were also exposed to the mockeries and insults of a curious and indifferent crowd, for whom the sight of their misery became an object of amusement and recreation." (6 — op. cit., p. 511.) Such were the conditions when Pinel, physician of Bicetre, in 1793 began his great work to humanize the care of the insane, to strike off their chains and abolish their dungeons.

Yet twenty-five years later the "progress of his ideas had not advanced one step." For we find Esquirol, his pupil, who was commissioned to make an inquiry into the conditions of the insane and their establishments reporting as follows:

> "These unfortunate people are treated worse than criminals and are reduced to a condition worse than animals. I have

> seen them naked, covered with rags, and having only straw to protect themselves against the cold, moisture, and the hard stones they lie upon; deprived of air, of water to quench their thirst, and of all the necessities of life; given up to mere gaolers and left to their brutal surveillance. I have seen them in their narrow and filthy cells, without light and air, fastened with chains in these dens in which we would not keep beasts." (6 — op. cit., p. 512.)

Such were the conditions in the institutions for the care of the idiotic and insane in France in 1818. And we are told they were the same everywhere in Europe.

Esquirol, however, made another advance. He differentiated idiocy from dementia. "Idiocy," he said, "is a state in which the intellectual faculties are never manifested when they have not developed to such an extent that they can acquire knowledge by education as do individuals of his own age, place, and condition." (1 — op. cit., p. 20–21.) However, idiocy presents two very marked differences relative to the degree of development of the intelligence. In the first, the intelligence and affective faculties have developed only up to a certain degree. This defect characterizes imbecility. In the second, these faculties show nothing or almost nothing. These are the idiots or cretins. The imbeciles can do rough, coarse work. They can learn to read, write, and a little music but very imperfectly. In the insane hospitals they are servants of everybody in the institution. (1 — op. cit., p. 24, 25, 27.)

The next step in the development of the care of the feebleminded was taken by Dr. Belhomme, who published his *Essai sur l'Idiotie* in 1824. He had been a physician at the Salpetriere for nineteen years and had become possessed of the idea that it was possible to improve the unfortunate conditions of the idiots and that some sort of an education could be given them. He began to teach them and came to the conclusion that idiots were teachable, depending on the degree of idiocy. He points out that later workers in this field ignored the fact that it was "from the Salpetriere and from Esquirol that arose the sparks that lit the torch which illumines them." (1 — op. cit., p. 45.) He distinguished three degrees of imbecility and two of idiocy. Individuals vary in degrees of mental development so they can receive only the education which is *en rapport* with that degree. So it is necessary to determine the range or dose of intelligence before one attempts to instruct them. Some have inclinations or propensities in one direction and some in another. He found that imbeciles could learn to read, write, count, and learn music but not well. They needed continual supervision and must be urged to study. Those who could not learn to read could learn some manual occupation or industry but were mediocre. In hospitals they were useful in work about the institution. Some of the most stupid idiots showed actions which indicated a certain degree of intelligence. (1 — op. cit., p. 66, 67.)

Ferrus followed Esquirol in the reform movement of the insane. He was made inspector general of the insane asylums of France. In 1829 Ferrus, while Physician in Chief of the Hospital of Bicetre, organized a school where he brought together the children and adolescents of the hospital who seemed to him to possess some mental resources. He taught them habits of order and to work, also to read, write, and cipher. He gave them gymnastic exercises. He brought them out of their lazy habits and counteracted and corrected their bad habits and strengthened by every means possible their weak constitutions. (1 — op. cit., p. 268, 269; 2 — op. cit., p. 85.) He it was who originated occupational therapy, for he was the first to think of giving the insane work to do. In 1832 he established a farm at St. Anne. The work on this farm was done by patients of the Bicetre.

In 1831 Falret established a school in Salpetriere made up of eighty idiots and imbeciles selected from the population of that institution. It is interesting to note that a little later he established a similar school for the acute insane. In both cases his efforts were successful. The movement spread to the other insane hospitals of Paris. He also had a school at Bicetre, for he says, "it is not necessary to believe *a priori* that idiots and imbeciles offer no chances of improvement. I have been able to prove the contrary in a sort of school which I established among the idiots of Bicetre." (1 — op. cit., p. 249.)

The results were so successful that in 1839 Leuret and F. Voisin organized on a "grand scale" a system of instruction for their "unhappy patients." In 1833 we find Voisin organizing a similar service for idiots in the Hospital of the Rue de Severes. And the next year he organized a special school for mental defectives. (1 — op. cit., p. 270.) In 1839 Voisin was made physician to the Hospital of the Bicetre. (2 — op. cit., p. 36.) He segregated the mental defectives from the insane and placed them in a building which had the advantage of being separated a little from the main hospital. Here he was to attempt, by instruction and special education on a "grand scale," to lead these unfortunates to approximate, as much as possible, the ordinary life of their kind. Yet he was not to forget that it was with an incomplete person that he dealt and that one could neither now or ever raise them to our level but we must descend from our intellectual heights and put ourselves as much as possible ***en rapport*** with the weakness of their minds. This alone will be the price of success. (1 — op. cit., p. 271.)

The preliminary work having been done and the ground cleared, a school-master was now necessary for the work to progress. So Ferrus and Voisin recommended Edouard Seguin, whose distinguished work they had observed, to the General Council of Hospitals, and he was appointed master of the children in Bicetre, and took up his work there in 1842.

The philosophy of the early nineteenth century in France was sensationalism. The Abbe de Condillac at first basing his thinking on the work of Locke later found reflection unnecessary and came to the conclusion that sensations were the only source of our ideas. He imagined a marble statue which he in turn endowed with the senses beginning with smell and attempted to demonstrate how all our ideas originated and are developed. (9.) This was the philosophy of the Revolution, the Terror, and the Empire, and inspired the "Contrat Social" and the "Emile" of Rousseau.

In 1798, some hunters found a boy running wild through the forests of the Province of Aveyron. He was eventually captured and Bonaterre, a Professor of Natural History of the Province, wrote a pamphlet describing him. A boy eleven or twelve years old, who chose his food by smell, drank by lying on the ground with his chin in the water, walked on all four, fought with his teeth, tore off his clothes, and tried constantly to escape. He could not talk, yet was pleased at receiving caresses. Bonaterre thought, "a phenomena like this would furnish to philosophy and natural history important notions on the original constitution of man and on the development of his primitive faculties." (7 — op. cit., p. 50.) Evidently the "marble statue" of Condillac had been found.

He became an object of great interest to the intellectual men of the day as well as a curiosity to the general populace. He was taken to Paris and placed in the school for the deaf. The teachers here were unable to do anything with him and he was left to wander around the halls of this institution. However, he came under the observation of Itard, the physician of the school. And when his case came up for discussion in the Academy of Medicine, Itard and Pinel were the chief disputants. Pinel claimed he was an idiot and hence unteachable; Itard, that he was wild and untaught, a creature uncontaminated by civilization, a "homo sapiens ferus." In order to "determine what might be the degree of intelligence and the nature of the ideas of a lad who deprived from his birth of all education, who had lived entirely separated from individuals of his kind" (3 — op. cit., p. XV), he undertook his education. His plan was to endear him to social life, awaken his nervous sensibility, extend the range of his ideas, teach him to speak, exercise his mind upon his physical wants. This plan, adapted to the training of a savage, he followed for a year. Then he changed it to development; first of the senses, then the intellect, then the affective faculties. (3 — op. cit., p. XXXII, XXXIX.) For four years he continued his teaching to find improvement in some respects — in others he could make no change — for the boy was a mental defective and not a savage. Itard published two reports on his work which gave him a great reputation and brought him a prize from the Emperor of Russia.

Seguin was a student of Itard who made known to Seguin his work and deemed him worthy to continue it (4 — op. cit., p. 4). But this had a different meaning to Seguin. For to Itard, immersed in his metaphysical speculations, it was the test of a philosophical theory. The world had traveled far in the first three decades of the nineteenth century; Haüy had established methods of teaching the blind; De l'Apee had demonstrated the method of teaching the deaf by the Manual Method; Pereira had shown that the deaf could be taught to speak even giving them his Gascon accent. He influenced Rousseau as shown in "Emile" — for the two men were neighbors in Paris when Pereira was developing his method. So that in the third decade of the century the substitution of the senses was a well recognized principle in special education. St. Simonism had arisen, which taught that "the whole of society ought to strive towards the amelioration of the moral and physical existence of the poorest class; society ought to organize itself in the way best adapted for attaining this end." (Ency. Brit., 13th Ed., Vol. XXIV, p. 46.)

So to Seguin, subjected to all these influences, the work of Itard meant something different — the teachableness of idiocy. Under the inspiration of Itard's work, and being a physician, he came to the idea that an idiot was " a soul shut up in imperfect organs" (5 — op. cit., p. 40), which he attempted to release by physiological methods. He threw himself with great enthusiasm into the work. He was given a chance to test his methods in the Bicetre in 1839, which was so successful that he was appointed manager of the school in 1842, as above noted. Here he developed his physiological method of education which he published in 1846 — *Traitement Moral, Hygiene, et Education des Idiots.* His "physiological education" was his great contribution to the work and his book became the text book of all future workers in this field.

The Royal Academy of Science appointed a commission to examine Seguin's school in 1843. They reported in part as follows:

> "In order to form a just idea of idiots, suppose yourself to be introduced into the asylum which they inhabit, as Mons. Seguin was, to become their teacher. What a sight! One is jumping about, bellowing and crying out; another is crouching in a corner as silent and motionless as a statue. The first one whom you address runs chattering away; the next keeps bowing to you, and kissing his hand; a third makes signs of the cross all over his body; a fourth lies flat upon the floor; a fifth gnaws his fingers and laughs wildly."
>
> "Not one can give an intelligible answer to your questions, so inarticulate is their voice. Further on are more hopeless idiots, — blind, epileptic, paralyzed. . . . Eyes have they, but they see not; ears have they, but they hear not. Their legs are unfit for standing, balancing the body, for walking, leaping or running. Their hands are unfit for feeling, seizing or moving things." . . . "This being the case, an idiot of the lowest kind being the extreme of ignorance, brutishness and perverseness, it follows that to undertake his education is the most repulsive and the most painful task." (2 — op. cit., p. 37.)

The following is an account of a visit to the school in 1848:

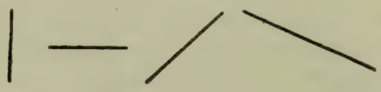
> "The number of pupils in the school has varied for some time past, from eighty to one hundred. At five o'clock they rise and pass half an hour in washing, combing and dressing; the monitors — pupils more advanced — aiding those whose instruction is recently commenced. They then pass into the hall of classes, and range themselves in a double line, no easy task for the beginners; when they sing a simple morning prayer, repeated to them by the teacher. After this, they make their first breakfast of a simple slice of bread. The class for the education of the senses now begins, and fills up the time till eight-fifteen A.M. In the first or highest division, several occupy themselves with surface and landscape drawing; and others, less advanced, with geometrical drawing upon the blackboard. The third division, divided into sections, is of those who are exercising the senses of smell, taste, sight, and observing

color and form, by the method I have before described. The sense of hearing is exercised among other means by the pupils learning to distinguish and name, while blindfolded, the natural sounds as produced by the cords of a bass-viol. Meanwhile the youngest class of eighteen or twenty is going through its elementary gymnastics of the moving power. From eight-fifteen to nine A.M. is taken up by the study of numeration and arithmetic. Here the whole school is divided into frequently changing groups, according to the various capacities developed. The lowest of all is ranged in line and taught to count aloud up to thirty; a series of sticks, balls or other material objects being given them at the time. This helps to ameliorate their speech and to stimulate to imitation those who have not that faculty. Another group is set to climb upon ladders, counting the number of rounds as they go up, and thus the muscular system and knowledge of numeration are simultaneously developed. A higher group is of those who count up to fifty, with counters, and who, by means of them, get an idea of unity, plurality, subtraction, addition and equality. A higher group still has learned to count up to one hundred and another group is learning, by means of movable figures taken from a case, the combinations of numbers. Higher still are boys working upon their slates or going through calculations upon the blackboard with a facility and precision that any pupil of Warren Colburn might envy. From nine to nine forty-five — Breakfast of soup and a plate of meat. The pupils are here seated at table and eat with fork and spoon, the more adroit aiding those less so.

Nine forty-five to ten-thirty — Recreation in open air, running, playing ball, driving hoop, or cultivating a small plat of ground, the hire of which, for three months, each one may gain by a certain number of tickets of good conduct.

Ten-thirty to eleven-fifteen — Reading class in which all take part, divided, however, into various groups as before.

Eleven-fifteen to twelve — Writing class. Here the lowest group is taught only to trace on the blackboard, with a ruler, these lines:



The next group is taught to make upon the board the rudimental characters as

/ / / C C C O O O

making the three in each line. After this they write on slates and, when further advanced, the monitor being ready to guide their hands, they write in ruled books. The highest class rules its own books and writes alternately a page of large and fine hand:

Twelve to twelve-thirty. Gymnastics.

Twelve-thirty to one. Music.

One to four forty-five. Manual labor.

In this all take part; some as shoemakers, some as carpenters, or rather cabinet-makers, and some as tillers of the ground. One of the best exercises for the body, inasmuch as it compels the idiot to walk and balance himself unaided, is that of wheeling a barrow charged with a weight proportionate to his strength. The most stupid may be soon taught this. Others more intelligent wield spade and pick-axe most energetically and profitably; but nowhere does their awakened intelligence appear more satisfactorily than in the work-shop of the cabinet-maker. When one of them has sawed through a plank or nailed together two pieces of wood, or made a box, his smile of satisfaction, the consequence of "something attempted, something done," the real result of which he can estimate, is beautiful to see. Nor is their work by any means to be despised. With one cabinet-maker as teacher and monitor, they performed last year all the work necessary for their schoolroom and dormitories as well as for a good part of the great establishment of Bicetre. At shoemaking, they show intelligence; but this is too sedentary an occupation for them. Some, however, who have left the school, work at it; but the greater number of them become farmers and gardeners.

After this manual labor, they dine and after dinner, play till six-fifteen P.M.

From six-fifteen to seven — Grammar class; the lowest group is taught to articulate syllables; the highest, as much as in any grammar school.

From seven to eight-fifteen is passed in reading to one another or in conversations and explanations with the teacher upon things which may excite the reflective power. Two evenings in the week, this hour is devoted to concert and a dance.

> After this comes the evening prayer sung by all; and then, fatigued but happy, they retire to rest.
>
> Such is a day at the school at Bicetre. Every Thursday morning the teacher takes them to walk in the country, and then inculcates elementary notions of botany, designating by their names and impressing by smell, taste and sight, the qualities of different flowers and useful vegetables which they see. At the same time he explains, by locality, the first elements of geography. On Saturday evening there is a distribution of tickets of good conduct, three of which — I have before observed — pay the rent of a garden, and one of which may buy off, for another, with the consent of the teacher, the punishment adjudged for certain slight acts of negligence. You will see at once the effect which this must have upon the generous sentiments of the pupils. The sentiment of possession is developed; the rights of property taught; but its duties and its true pleasures are at the same time impressed." (2 — op. cit., p. 45–48.)

George Sumner visited the school and sent an account of it to Dr. Samuel G. Howe of Boston. He said: —

> "During the past six months I have watched with eager interest the progress which many young idiots have made, in Paris, under the direction of Mr. Seguin and, at Bicetre, under that of Messrs. Voisin and Vallee, and have seen with no less gratification than astonishment, nearly one hundred fellow-beings who, but a short time since, were shut out from all communion with mankind, who were objects of loathing and disgust, many of whom rejected every article of clothing, others of whom, unable to stand erect, crouched themselves in corners and gave signs of life only by piteous howls, others in whom the faculty of speech had never been developed, and many whose voracious and indiscriminate gluttony satisfied itself with whatever they could lay hands upon, with the garbage thrown to swine or with their own excrements; these unfortunate beings, the rejected of humanity, I have seen properly clad, standing erect, walking, speaking, eating in an orderly manner at a common table, working quietly as carpenters and farmers; gaining by their own labor the means of existence; storing their awakened intelligence by reading one to another; exercising towards their teachers and among themselves the generous feelings of man's nature and singing in unison songs of thanksgiving!
>
> "It is a miracle, you will exclaim; and so, indeed, it is a

> miracle of intelligence, of patience, of love. When I expressed to the teacher of the school at Bicetre, M. Vallee, my gratitude and my surprise at the results of his efforts, his reply was as profound as it was beautiful and modest. *Il ne faut, Monsieur, que la patience et le desire de bien faire.* 'Patience, and the desire to do good, are all that are necessary.' More than this is necessary and I felt bound to complete his sentence by adding to it the noble motto which Don Henry of Portugal engraved on his shield and, by his conduct, justified so well, *Le talent de bien faire.* Patience and the talent as well as the desire to do good are all required; but these can all be found in the community where Laura Bridgman has been taught; and the possibility of success now fully established, it would be an insult to Massachusetts to suppose that she will not be among the first to make those efforts for her idiot population which many European states are already commencing.
>
> "The fact, I have said, is now clearly established, that idiots may be educated, that the reflective power exists within them and may be awakened by a proper system of instruction; that they may be raised from the filth in which they grovel to the attitude of men; that they may be taught different arts which will enable them to gain an honest livelihood; and that, although their intelligence may never perhaps be developed to such a point as to render them the authors of those generous ideas and great deeds which leave a stamp upon an age, yet still they may attain a respectable mediocrity and surpass, in mental power, the common peasant of many European states." (2 — op. cit., p. 38–39.)

In Chambers' Journal in 1847 appeared an account of the school written by George Sumner, a brother of Charles Sumner. He had visited Seguin's school in Paris and had written home quite extensively concerning it and its methods. This came to the attention of Dr. Hervey B. Wilbur. To an unlimited order for books he received just one — Seguin's *Traitement.* Enthused by the study of this, he received into his home in Barre, Massachusetts, in July, 1848, a feeble-minded boy and thus began the first institution for the training of the feeble-minded in the United States. Dr. Samuel G. Howe opened an experimental school in South Boston in October, 1848, which in 1851 became the Massachusetts School for Idiots and Feeble-Minded Persons.

In 1850 Seguin, on account of political reasons, emigrated to this country. He visited and aided the institutions at South Boston, Barre, Syracuse, and Randall's Island. He helped establish those in Connecticut, Ohio, and Pennsylvania. So "these institutions owe their existence wholly or in part to his School at the Hospital for Incurables or to his treatise or both." (8 — op. cit., p. 14.)

From this impetus the work spread. The New York institution (Syracuse) was opened in 1851, then followed Pennsylvania — 1852; Ohio — 1857; Connecticut — 1858; Kentucky — 1861; Illinois — 1865.

In 1876 there met together in Philadelphia Drs. Kerlin, H. B. Wilbur, Edouard Seguin, Doren, C. T. Wilbur, Knight and Brown and founded the Association of Medical Officers of American Institutions for Idiots and Feeble-Minded Persons. The object was the "discussion of questions relating to the causes, conditions and statistics of idiocy and to the management, training, and education of idiots and feeble-minded persons." (8 — op. cit., p. 4.) This association has met yearly — with one exception — since then. It has correlated and unified the work for the feeble-minded in this country. It has been the source of its inspirations and advancements. Its members have been the leaders in the development of new methods and extension of the work.

Although it had been twenty-five years since the opening of schools for the feeble-minded in this country, still there were only eight in existence, five State institutions and three managed by a private corporation with a total population of about thirteen hundred.

The principles of the institutional care of the feeble-minded were formulated by Kerlin in 1877. They were — that idiots and imbeciles should be treated separately; they can not be placed in ordinary schools; they should not be placed in insane asylums, penal institutions or almshouses; they are "better and more successfully treated in well organized institutions than is possible in their homes."

For their care he insists on thorough and rather minute classifications. The brighter grades, he thinks, can be trained to return to their families in five or ten years. The industrial training should be adjusted to the life they are to live in their own communities. However, a large number, for various reasons, will not be able to return to the home life. A large number of the idiotic, paralytic, and epileptic, are incapable of the usual education and industrial training but can be greatly improved by habit training, exercise, and medical treatment.

In organizing an institution to meet these needs he would have a board of trustees of "high personal characters, enlightened views, and with ample time." The superintendent should be a medical man appointed for merit, who should have complete control of the institution and select the help. All departments of this institution should be "tributary to the prime object of the institution — the elevation and instruction of the inmates." He specifies a central building for the school department with separate shops; a nursery or custodial building especially designed; and a hospital building.

The plans for new institutions should be approved by a board of persons skilled in the management of such institutions.

He emphasizes small dormitories, small rooms for special cases, plenty of air space, ample clothes rooms easily accessible, bathrooms with liberal accommodations, an assembly hall capable of seating all, impervious floors, fireproof stairways, the best systems of ventilation, heating and sewerage. All buildings should be "comfortable and homey." The grounds should be fenced to secure privacy. Large and convenient playgrounds should be provided with asphalt walks for the lower grades. (8 — op. cit., p. 16 fl.)

Such was the ideal institution of 1877. How true it was and how faultily carried out in the institutions afterward established only those of institution experience can really appreciate.

From these centers the work spread to other States. Although the fact that the feeble-minded were teachable had been established yet it was slow in being appreciated by the general public. So we find the next schools to be founded were started as experimental schools, Minnesota and Indiana in 1879; Kansas — 1881; California — 1884; Iowa — 1876 was an exception. From 1885 all the schools founded were established as permanent institutions.

Following the Seguin tradition the institutions were established as schools. In some, only pupils of school age could be retained, being discharged at the completion of the school age the same as normal children. On the discharge records of this time the word "cured" is often noted.

The teaching methods followed those developed by Seguin and in conformity with the physiological method we find worthy of mention — games, drill, calisthenics, singing, dancing, gymnastic and other exercises and industrial pursuits. In 1879 Dr. Knight said they could not teach trades since the parents objected to the children working, yet he thought twenty-six per cent of them could be made capable of self-support. However, "any defective child if it can be made cleanly, comfortable, careful of clothing and caring for self, should have opportunity for just such advancement." (8.) Syracuse added farming, brush and mat making, sewing — dresses, aprons, sheets, etc.

Dr. Kerlin introduced the kindergarten in 1877, for it was "adapted to proper brain and hand training" and it would also enable him to lower the age of admission. Other institutions soon followed. He also had classes in clay modelling, broom and mattress-making, cane-seating, shoe-making. Dr. Doren tells of his "garden system of training" for all who can walk, and thinks farming the best employment. Dr. Stewart speaks enthusiastically of his carpenter shop and says that all their shoes are made by their inmates and he is soon to introduce "machine sewing." Seventy-five per cent of his children were in industrial occupations. However, he observes that he is not permitted to receive idiots but does have many defective delinquents.

In 1878 Dr. Kerlin introduced instrumental music by the formation of an orchestra of twelve pieces, and he was astonished to find some boys who could not learn to read yet they could learn to play by note. Dr. Doren introduced the brass band.

It was soon found that while many were "capable of a fair degree of useful occupation under intelligent home direction" yet they were either homeless or their homes were not suitable. So arose the need of custodial institutions. The first to be established was at Newark, New York, in 1878, when seventy women were transferred from the Syracuse institution. This lead was soon followed in other States usually by opening a custodial department. "As the years pass on we note the inevitable growth of the custodial institutions supplementing the educational, and utilizing for self-support the ability previously gained. (8 — op. cit., p. 294.)

Illinois was the first, in 1881, to establish as a detached unit the farm colony for the older boys. Dr. Wilbur at Syracuse followed the next year and started a dairy.

We note next the medical phases of the work coming to the front. There was an increasing number of epileptics applying for admission. Papers dealing with the treatment of this disease appear at the association meetings. Rogers started his "epileptic table" in Iowa. Kerlin reports the establishment of a hospital branch, and Illinois soon follows. Dr. Wilmarth begins his work on the anatomy of the idiot brain. The employment of a pathologist for all institutions was suggested but never carried out.

In 1882 the main building of the Ohio institution was destroyed by fire but without the loss of life. This emphasized the importance of fireproof buildings.

The institutions were no sooner well established than "political troubles" arose. Indiana seems to have been the first, in 1885, to suffer in this respect. And the sentiment was voiced that the institutions "must be divorced from politics and the manipulations of unscrupulous politicians." This plague has done untold injury to the work throughout the years. Many times has been noted an institution in the forefront of our work to decline and practically pass out of the picture from political troubles.

The period from 1886 to 1896 was a period of expansion and growth along the lines already laid down. The New Jersey Training School and The Home for Feeble-Minded Women were both opened in 1887. Maryland followed in 1888; Washington — 1892; Rome, New York — 1894; Michigan — 1895; Wisconsin — 1896. The established institutions continued to expand. Massachusetts moved into a new plant at Waverley. Others added hospital, custodial buildings; "asylum branches"; farm colonies and hospitals for contagious diseases. New York and Ohio founded separate institutions for epileptics. A second institution for Pennsylvania was suggested. New York's institution at Syracuse changed its name and the consensus of opinion seemed to be that "Institution for Feeble-Minded" was the proper title. However, some legislatures were indifferent and there were complaints of lack of funds and loss of institution efficiency.

Along educational lines there was co-ordination of the literary and industrial lines in school work. Minnesota gave an operetta, "Babes in the Woods" for the association at its meeting in 1890. Illinois made boots and shoes. Pennsylvania introduced military tactics. They had a battalion of six companies and were impressed with its disciplinary value. Manual training was proposed as an efficient means of training. In 1894 Dr. Fernald published his paper on "Some Methods of Care and Training of the Lower Grades" in which he tells of his famous "stone pile." This still remains one of the most important contributions to the subject. (10 — op. cit., p. 450.) He also found the adult trained feeble-minded as efficient institutional helpers. And they were enabled to fill a niche in the social economy which could be nowhere else afforded them. The practice of paying the children who work was instituted and has gradually spread to all the institutions. Notice was taken of the feeble-minded children in the public schools and the problems involved.

During this decade there was increased interest in the medical problems presented by the feeble-minded. Lanndoque inaugurated in the Bicetre the operations of craniotomy for the cure of microcephalus. It was soon found ineffective, being founded on an erroneous pathological theory. Kansas became famous for the work on castration done in its institution. Channing did his work on the malformation of the palate and Osler on cerebral palsies. Cretinism was now found to be due to hypothyroidism and the treatment by thyroid feeding instituted. The combination of psychosis with feeble-mindedness was noted and a number of papers were written discussing the subject. Moral imbecility as a clinical entity, Kerlin and others attempted to establish.

The institutions were crowded and there was still call for more room. Dr. Stewart of Kentucky attempted to meet the situation by sending out his boys and girls. He "had heretofore doubted the propriety of sending girls away from the institution at any age or at any time, but my experience has been that no more of them fall into evil ways than would likely be the case with the same number of girls in other stations in life." (10 — op. cit., p. 374.) The prevailing opinion, however, was that the "incurable" girls should be kept in custody until the age of forty-five. As we have seen in the beginning the opinion was that the feeble-minded could be cured by the methods of physiological education. Consequently the children were kept in the institutions for only a limited period of residence or during the school age. Now, however, as experience increased it was coming more and more to be felt that idiots, imbeciles, and epileptics were subjects for permanent state care and that there should be legal control for the admission and discharge of inmates, or that legal commitment was desirable. At first this was made applicable only to females. Massachusetts had commitment for adult females in 1883.* Indiana in 1901, and Iowa in 1902, extended the age limit for women to forty-five. Michigan gave permanent custody to her institution in 1905; New Hampshire for females only. Wisconsin, Ohio, Pennsylvania Illinois, and other States followed with commitment laws. So the method of commitment became a rather common practice for admission with State institutions.

The tendency to centralization in the affairs of our State Governments was early applied to the control of our institutions. In 1897 Iowa was the first to establish a Board of Control for the management of her charitable and penal institutions, abolishing the various local boards. It consisted of a Board of three men who were to give their whole time to the work at a fixed salary. All purchasing was done by the Board. Other States soon adopted this feature and it soon became very popular especially through the middle west. Various activities were soon taken over by these Boards. More people were employed so that they became large organizations. The claim for economy made at their inception was soon lost sight of. Representative

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* Commitment female adult feeble-minded was provided for in Massachusetts in 1883.

ERRATUM

Footnote on page 54 should read:

"Commitment of male and female adult feeble-minded was provided for in Massachusetts in 1883."

men were at first appointed to these Boards. Soon political reasons determined their selection with consequent loss in standing. A more recent development in centralization is the establishment of a financial or permanent Budget Board to which the Board of Control is subservient. Thus the machinery of institution management increases in complexity. The effect on the institutions has been a loss of touch with the general public with an increase in the complexities of management.

Growth along educational lines was shown in the first decade of the present century in the attention given to sense-training speech defects, physical training, and domestic science. Nature study was proposed as of special value in sense-training. Entertainments were found of special value. Military drill was introduced in Rome in 1909, on Sunday afternoons, to keep the boys busy and out of mischief.

Training schools for attendants were proposed by Howe in 1895. They were established in the Minnesota Institution in 1899 and Rome, New York, in 1907.

As an outgrowth of the institutional practice "special schools" for mentally defective children were established in the larger cities. Providence, Rhode Island, was the first, about 1899. Soon followed Worcester, Massachusetts, Boston, Philadelphia and New York. It is now the approved practice in all the larger public schools.

Development along medical and scientific lines continued. Hrdlicka made his anthropological studies in Syracuse in 1898. Elyn had an anthropological laboratory in 1902. Work was done on etiology and pathology as shown by the papers presented to the association during this period. Dr. Barr published his book on "Mental Defectives, History, Treatment and Training" in 1902.

The rediscovery of the work of Mendel on heredity soon attracted the interest of the institution workers. Rogers, Barr, and Davenport made studies on heredity. The most effective contribution, however, was Goddard's "Kalikak Family," published in 1912. This work made a great impression on the general public, greatly increased its interest in the feeble-minded and so aided markedly the growth of the institutions. It helped build up research work and added field work which was begun at Vineland in 1909.

However, psychology gave the predominating feature to the development of institutional care in the first and second decades of this century. Wylie was the first to study the feeble-minded by modern psychological methods in Minnesota in 1896. His studies were published in the "Journal of Psycho-Asthenics," beginning in 1899. A scheme was devised for psychological examinations. The college laboratories took it up. Kuhlmann made his experimental studies on the children in Massachusetts institutions in 1904. Goddard came to Vineland in 1906 and took up the work. He soon began the application of the Binet-Simon tests to the feeble-minded. After establishing the validity of the tests, he made use of them as a means of classification. As a result of this work the Committee on Classification of the American Association for the Study of the Feeble-Minded made a report in 1910 which fixed the official classification of the feeble-minded. This soon came into general use and is the predominating one today.

The terms were defined chiefly by Binet-Simon tests: idiot was a mental defective with a mental age up to and including two years; imbecile had a mental age of from three to seven years; moron from seven to twelve. Moron was a new term introduced for the highest grade since it was desired to keep the term feeble-minded as a general term for the whole group. However, the committee advised combining this with the pathological classification so we have such terms as microcephalic idiot, mongol imbecile, etc. This latter recommendation seems to have been pretty generally overlooked.

This work aroused great interest and led to an intensive study of the tests by Terman, Kuhlmann and others, who modified them to a certain extent producing a series of tests very useful in classifying feeble-minded children and forecasting what they will be able to do in school and industrial work. Soon many rushed in to apply the convenient yard stick of the Binet test to public school children, inmates of reformatories, prisons, immigrants, the women of the street, and suspected criminals. The attempt was made to make the Binet test decisive for the determination of feeble-mindedness, especially by the psychologists. This view was too narrow. Numerous other tests were invented and Dr. Fernald developed his ten fields of inquiry as a method of diagnosticating feeble-mindedness, particularly of the higher type grade. And all have now come to admit that the tests furnish valuable evidence but are not specific for the higher types. (12 — op. cit., 1828, p. 219.)

This work was of the greatest importance in the development of the care of the feeble-minded. It helped to explain mental deficiency to the non-professional worker and it discovered the moron. As Dr. Fernald says: "Goddard not only named but discovered the moron and soon our overcrowded institutions were overburdened with this type." So the institutions were forced to enlarge and provide increased facilities. However, since the tests gave a means of forecasting what a defective child could do in school it enabled the institutions to eliminate a lot of useless labor in the training of the children and to concentrate it along more improvable lines as well as on the more improvable children.

The use of mental tests led to increased interest and study of defective delinquents. At first the tendency was to regard every feeble-minded person as a potential criminal. The studies in the census of the feeble-minded, which these tests enabled us to make with much greater accuracy, showed a much higher proportion of the population feeble-minded than had previously been determined. So the large number of mentally defective in the communities, the statistics of crime, and histories of discharged patients, showed that on the average feeble-minded were no more liable to get into trouble with the courts than so-called normals. However, defective delinquents were forced on the attention of the public and our institutions were compelled to admit many of this type — until special institutions could be developed. This added greatly to the responsibility of our institutions and gave rise to many new problems.

Research was greatly stimulated by this movement. Vineland established her research department in 1906, when psychological heredity, and biochemical studies were made. Minnesota laboratories opened in 1899, took on new activities with the coming of Kuhlmann in 1910. Ohio opened her research bureau in 1916. Johnstone summarizes the results of this work in New Jersey that it led to medical inspection in the public schools, special classes, retention of the feeble-minded in the institution, parole, sterilization, marriage law, and extension work. (12 — op. cit., 1914.)

The problem of the care of the feeble-minded had now become much larger. In 1912 Dr. Fernald wrote his paper on the "Burden of the Feeble-Minded." The institutions had greatly increased in size — some to a population of two thousand. Ideas on the optimum size had increased from hundreds to thousands. Some could see no limit. However, the cottage plan was favored with fireproof buildings. Stage programs were being formulated: The need for room in the institutions together with the knowledge that well-trained feeble-minded under proper conditions could be self-sustaining in society led to the development of the colony system. Dr. Bernstein at Rome, taking advantage of the abandoned farms in that section, was a leader in this. He reports the establishment of a working girls' home in 1915.

The demand for trained teachers for the special classes in the public schools led to the formation of summer schools. The

Training School at Vineland was the leader in this — 1903. Soon followed Minnesota, Rome and Syracuse, New York and Michigan. The universities took it up and courses were given at the universities of Pittsburg, Columbia, Washington, and Teachers' Colleges in Colorado.

During the past ten years the development of institutions has progressed along the lines indicated. Especially to be noted was the work on pathology done by Southard at Waverley, Massachusetts, and the formulation of a uniform method for statistics in 1919. But the greatest progress was made along the line of community care. The institution was the "pivot of a well-balanced state programme." They passed along to the community and the schools the results of their knowledge and years of experience. On account of the great number of mental defectives it was evident that the great majority could not come to the institutions. And there was no need that they should. Only the bad and neglected would demand institutional care in communities when the proper training could be afforded. The trained feeble-minded could be paroled but at the price of good behavior. It was felt that the female mental defective should not be paroled. But sterilization is coming forward as a possible solution of this problem. (12 — op. cit., 1927, p. 88.) So parole and extra institutional care were prominent features of the work during this period. Institutional colonies as training schools for parole were developed and greatly extended, many of the larger institutions taking up this feature of the work.

Out-patient clinics were instituted and developed. Dr. Fernald at Waverley organized the first of these clinics in 1891, which grew in importance and usefulness. The next development was the traveling clinic, staffed by the institutions and going out from them to adjacent towns to make diagnosis and suggest methods of training and treatment. About 1922, Massachusetts inaugurated a State-wide public school mental clinic to examine the below grade children in the schools of that State and suggest methods of handling them. The institutions thus took a place as laboratories for the public schools.

The development of medical science led to more emphasis on medical care to place the children in the best possible shape for educational training. This training took more an industrial than scholastic trend. For it was thought best to give the child the training he could utilize and that would best fit him for the niche in society that he would occupy.

In 1876 there were eight institutions in seven States with a total population of about thirteen hundred. In 1927 there were seventy-three institutions (eight for epileptics only) in forty-three States and District of Columbia, with a total population of

57,321. Five States have no institution, viz., Arkansas, Arizona, Nevada, New Mexico and Utah. New York has six institutions; Massachusetts four; New Jersey three; and Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Maryland, Colorado and North Carolina, two each. In 1926 there were eight thousand one hundred and twenty-one first admissions. In 1923 there were eighty-nine private institutions and there were special schools in one hundred and seventy-one cities, with an enrollment of thirty-three thousand nine hundred and seventy-one pupils.

The institution that has developed through the years might be summarized as follows:

It is located near a good-sized town where it is convenient of access but with as much privacy as possible and near a railroad so trackage can be easily available. It has a large tract of land, fertile but also with areas of sand and gravel, rolling to aid sewage disposal, with woodland and a plentiful supply of good water. The buildings are of fireproof construction designed to secure plenty of sunlight and ventilation. The children's quarters are in small units or the cottage plan, with impervious floors, tiled bathrooms, large convenient clothes rooms, dormitories for sleeping, with a few single rooms. The buildings are arranged with good space between but also convenient for service of light, power and water. The cottages for boys and girls are on opposite sides of the grounds.

It is managed by a board of representative citizens. The superintendent is a physician who has complete charge of the institution and selects the help, who are responsible to him.

There is no restriction or age limit to admissions. Commitment is the rule.

The school department is the central feature of the institution. It is separately housed with a large assembly hall. It has specially trained teachers. The classes are small and change frequently. While the literary subjects are taught the emphasis will be upon the manual and industrial. It will have a kindergarten. Music will be taught and an orchestra or band will be a marked feature. Entertainments will be emphasized both for the training and their contributions to the community life.

There is a hospital with a department for contagious diseases and infirmary wards; a staff of physicians, about one for every two hundred inmates, with a consulting staff. There are pathological, clinical and psychological laboratories properly staffed. Social work and extra institutional service will be afforded in the form of out-patient or traveling clinics and summer school for teachers. A training school for attendants and nurses is provided. There are colonies for the well trained who may be subject to parole; and a parole officer for supervision of those on parole.

The farm is operated for the benefit of the institution and the training of the inmates. The chief features of this are the dairy, garden, orchards, piggery and the raising of feed for the animals.

The service buildings are ample and well equipped and designed with the idea of future growth — power house, laundry, stores, cold storage and kitchens. The kitchens and the school are the heart and center of the institution for there lie the comfort and happiness of the children.

The custodial department will be large, for many will be unable to go home to relatives or be paroled. However, it offers a useful life work for the less capable and they will have a part in the community life which the other departments of the institution afford.

The institution is large in population for it is only in a large institution that many of the above outlined features of service can be afforded.

To be doing what one wants to do and to be comfortable is to be happy. Happiness is what such an institution offers to the feeble-minded.

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THE PRIVATE SCHOOL — ITS CONTRIBUTIONS TO THE PROBLEM OF THE MENTAL DEFECTIVE

By Groves Blake Smith, M.D.,
Superintendent, Beverly Farms, Incorporated, Alton, Ill.

The contributions which the private school has made to the foundation principles underlying the care, training and treatment of the mental defective have been overshadowed in recent years by the rapidly changing policies of the State and the individual communities.

Although Itard, Ferret and Voisin were temporarily interested in training problems, it remained for Dr. E. Seguin, in the year 1832, to establish the first private school for the feeble-minded in the *Hospice des Incurables* in Paris. Chiefly as the result of this experiment, the work spread to other portions of the world as evidenced by the work of Gegenbuhl in Switzerland, Saegert in Germany, Connolly and Reed in England, and Dr. H. B. Wilbur in America. Starting at a time when there was general public distrust and doubt as to the value of such efforts, too much credit cannot be given to their pioneer achievements.

In the beginning, the private school was an outgrowth of an individual desire to study in an intimate way the psychological and medical reactions to treatment, both physical and mental. As information was obtained from this study, attempts were made to apply such knowledge to the practical problems of everyday life. It is interesting to note in passing that the organization of the first private school in the United States was founded upon the family plan, in which the pupils spent their hours of recreation and training under the direction and supervision of some immediate member of the family. This fundamental principle is still the foundation stone of all private schools. With few exceptions, the establishing of such schools was born out of a love for unfortunate children by a self-sacrificing group who placed service to the mentally retarded above personal gain. With the establishment of these fundamental principles, as well as recognition by the community as manifested by the development of State schools, the problem of the private school changed to a greater individualization of a select group whom they felt could be most benefited by the home care and the psychological training of the special senses, the functions and the muscular system. This fundamental principle still remains an integral part of our modern systems of training. With the introduction of mental tests and the era of intensive intellectual development, the trend of the private school was to over-emphasize this aspect to the exclusion of the fact that we are dealing with a person as well as that person's family. With the introduction of endocrine treatment, a new field was opened up for the careful observation and study of the physical changes as related to the emotional and intellectual reactions of the individual. It is true that in many cases enthusiastic treatment was not tempered with intelligent scientific observations but the private school offered the means of providing a field for intensive study of such correlations by the private physician. With the changing sociological structure in which the home is gradually giving away to apartment life, the private school offers a means of furnishing the home life which is so necessary to the proper development as well as happiness of those who by birth and disease have a limited future.

There is a growing trend in the administration of social conditions that suggests that whenever possible the individual family must be taught to shoulder the burdens of its own mental problems and thus lighten the community burden. No state, or even city, has been able to assume the financial burden of either institutional or community control. The private school stands ready to assist in this major readjustment. It serves as a home for the development of the intellectual, emotional and cultural habits that will tend to make the retarded defective a more valuable citizen without such training being a drain upon the economic resources of the community. This, in itself, enables those who are more properly community charges to be adequately cared for. On the other hand, sacrificing families assume obligations that are rightfully those of the State, and care must be taken to see that future benefits will justify the expenditure of time and money. There are instances without number where the family resources have been strained, too often broken, by intensive and expensive educational programs and medical surveys, where later we find this same child a candidate for the State school, and the family life, hopes and aspirations shattered, whereas a systematic consideration of the economic status and sociological situations would have guarded us against such difficulties.

The formulation of a well balanced program for the mental defective and for the defective family is of primary importance. In the State school we work toward the goal of making such physical, intellectual and personality adjustments as will best fit our mental defective to assume his rightful place in the community. In the private school, on the other hand, the family often desire, after the limitations of the individual have been fully recognized, that definite plans be made so that the individual will lead a sheltered life and not be forced out into a world of unfriendly and unequal competition. We do not do our duty unless we fully explain to the individual family the rights of the more normal members to share in meeting the future burdens that may be theirs.

More and more, thinking parents of the cultured class recognize and admit the deficiencies of their children. This has come about through better knowledge on the part of pediatricians, as well as the recognition that these defects often have an accidental background. In the private school the group, where the deficiencies are accidental rather than hereditary, is much larger than that of the State school so that the family inherently has the feeling that there is not the stigma associated with such admissions. Thus, the admission of such children in the preschool ages is the most recent contribution which the private school is able to make. Unfortunately, as yet, there is not sufficient interest in this problem. The private school with its home environment offers a means of intelligently overcoming many of the delayed habit mechanisms which are so extremely important in the life history of any individual. Too often, we find children of this age are so petted and spoiled that the mother is a mental and physical wreck through misguided attempts to make up to the child through physical means that which was lacking mentally. This delay is detrimental to all concerned and renders the child inadequate to adjust himself to other surroundings. In this formative period, muscle re-education and orthopedic correction can be given as well as medicinal and glandular therapy, when indicated, in a way that is not possible in a State school with its limited personnel. Should it later be necessary to transfer such patients to a State school, we have rendered a distinct service to the individual in that physically and mentally he is better able to benefit by the limited training which is possible with limited resources. It is at this point that we should carefully readjust our program in the event that the family resources do not permit a further continuation in the private school. By this time, the mental viewpoints of the family should be such that we can, without fear of misinterpretation, frankly render a decision free from emotion and still one that is based upon adequate observation.

As the child enters the private school we should emphasize the fact that placement is with the idea of developing latent possibilities, rather than a means of merely shifting burdens to some one else. We are fortunate in being able to choose the individuals who will gain most by this character and habit training, for we do not have to accept everyone who comes. The private school is not limited to any specific program and thus we can develop the individuality of the child in a way that will best meet the future demands of our program. In the State school too often we are face to face with the need of making our individual into a self-supporting member of society. Thus, our school is in itself a research laboratory, the contributions of which will be limited only by the resourcefulness and scientific ability of the individual in charge. In the past we have forgotten that Dr. Seguin, with much more limited means at his command, accomplished more than many well established laboratories of today.

In view of the fact that the private school's advantage over the State school lies in the individualization of the individual, we must choose with care the personnel of such a school. Experience in the past has shown that while much can be accomplished in a purely educational way by those without medical training, still a well regulated program cannot be undertaken without intensive medical supervision. As a psychiatric approach to the family as well as the individual is most important, neuropsychiatric training is an essential need for those in charge of such a school. Teachers and attendants must have infinite patience as well as an interest in the hourly welfare of their charges, for in the private school the life is so intimate that one is never freed of responsibility. As a recompense for this additional responsibility, the majority of parents feel indebted for such service and the personal relationship thus established brings about an understanding that cannot be accomplished in any other way. This understanding is a major contribution of the private school.

The location of the private school should be conveniently situated near a larger center for the convenience of the patrons, but the opportunity furnished by life in the country as an accessory means of assisting in the physical and mental development is of primary importance. The daily lessons of the garden, farm, etc., are just as important as those of the classroom. Utilization of the patient into the daily activities of the home are of practical importance.

The character of the school will depend much upon the past experiences and interest of the individual in charge. Experience has shown that when we divorce the home aspect from the school activities, we lose that which is the most valuable. To many, and rightly of primary importance, should come the happiness of the individual. No private school can adequately serve the public if either the patient or the family is dissatisfied. This does not signify that it is necessary for us to relax our disciplinary measures so far as the patient is concerned, or to bow down to family whose wishes are unjust and unreasonable. In the private school there is or should be sufficient flexibility of program that we can carry out the wishes of the parents until they have sufficient confidence in our opinions to warrant our making suggestions as to the proper changes. Those who are accustomed to dealing with the public as represented by the charity case are often prone to be too hasty in breaking the news of the degree of mental retardation, for it is a decided shock to the average person to find that he is the proud father of an imbecile rather than a potential college student. The art of having parents come to this realization slowly is rapidly becoming a lost art. This does not justify us into deceiving a family into the vain hope that we can accomplish something that a careful I. Q. will show to be impossible. The success of our initial contact will often determine the success of our future program. There are two types of school at present, each of which has a definite niche.

The first type of school is primarily the rich man's school. Here the equipment and associations will provide a beautiful, cultured home with all the luxuries that it is possible to give, in keeping with the home life of the parents. In some cases a single child has made up such an establishment. There is a grave question whether the average mentally retarded child is as happy as he would be in the average State school, for he does not have sufficient understanding to appreciate what is being done for him and he often lacks the congenial associations that he might have in the latter place. In the borderline groups, without doubt, such children respond to the additional care and training which such associations bring about. When we accept children in such a private school from families of limited means, are we not doing an injustice both to the parent and to the child? Experience in the past has proven that there are few families who, over a period of twenty-five years, can afford an expensive type of treatment. The additional intellectual gain through intensive treatment and care is often lost when sickness or misfortune overtakes the family, and they are later forced to fall back upon the resources of the State. The child too often is educated to a type of life that makes adjustment both at home or in the institution additionally difficult.

Were all the State schools run on the same high plane that some of the better known schools are, there would not be the indecision of the general public in sending their child away from home. As long as political influences abound in our State schools there will be a crying need for the private school that will furnish a home and school, not upon the scale referred to in the previous paragraph but in keeping with the resources of the average family of today. There is no reason why the same careful medical attention cannot be rendered, particularly if a physician is in charge of the school. It is true that the school work cannot be as intensive, but an interested woman, whose soul is in her work, can often accomplish as much as many of those who are better trained but lack this feature of their daily lives. Much of the daily training of the mental defective is through association and habit mechanisms, and these do not always require expensive equipment and surroundings. The fact that the child has to take part in the daily activities of the household, such as washing dishes, making beds, etc., will be a help in practical application at home rather than a handicap, whereas, in the other type of school, there is someone else to do it. Experience of many years has shown that the mental defectives have simple wants and that their happiness often is linked with some very trivial factor in their daily life, and too often we do not give them a chance to find it themselves through forcing too much supervised play, etc., into their daily program. An atmosphere of loyalty, culture of good moral principles and sympathetic understanding of the individual emotional problems is not always an expensive luxury, for these are all principles that exist in understanding men and women and cannot be bought with money alone. Too often there is a feeling on the part of misinformed parents that unless John and Mary are given the limit of educational advantages they have not fulfilled their obligations. As a result, the normal members of the family are denied additional advantages which, if they only had been able to have, would have enabled them to be in a better position to help John or Mary.

With the changing social conditions of the community and the breaking up of the normal home ties, we see more evidence of the fact that the individual members, after the death of a father or mother, are unwilling to accept the burden of caring for a defective brother or sister within their own home. There are two ways in which the private school can render a service to the community, first — the intimate family contacts should permit of the education of all of the members of a family as to the need of a definite program for the future care of the defective, and the relative part which each might be expected to assume in the future. In this way the critical periods in the family life are adequately planned for and an ill-advised emergency commitment can often be prevented. The private school is face to face with the problem of how long should a child remain under its jurisdiction. The majority of private families do not desire to have their child return to the community as would become a part of a State program, so that it behooves all concerned to make adequate provision for care for the future. Secondly — a direct service to the community is rendered when the educated family make provisions for the establishment of a trust fund that will adequately care for the child in the event that death or other misfortune overtakes the family. The private school has initiated this movement and we deem it an extremely wise one. Preferably such a trust fund should be administered by outside agencies so created by law for the care of such funds.

To Dr. Walter E. Fernald the private institutions owe much, not only in the way of inspiration but as one whose counsel was always available. He took a deep personal interest in the trials and tribulations that attended the opening of such schools and did much to lighten their anxieties when the periods of depression and doubt came. He functioned as a stabilizer and prevented many from being carried away by a too enthusiastic program that had not been adequately proven to be wise.

Dr. W. H. C. Smith sponsored his application for admission to the American Association for the Study of the Feeble-Minded and, as Dr. Smith's son, I have been especially favored by Dr. Fernald's kindness and interest as a result of this friendship. He always expressed the idea to me that the private school should be an integral part of the organized forces working to better the conditions of the mental defectives. He felt that the private school offered the means for individualizing the care and training of suitable cases in such a way that we could correlate not only the emotional and intellectual factors but also the medical background and indicated medical treatment. He was quick to point out the defects of any program that did not consider the individual, the family and their relationship to society. He expressed the desire that we should look upon the private school as not being in competition but as an adjunct to the State and community program. He felt that much could be learned on the part of the larger schools and institutions from the personal contribution of the private school as to the results of individual study, but he likewise urged that the private school should incorporate the lessons learned through group adjustment. He, at all times, stressed the need of intensive medical, psychiatric and psychological study.

In conclusion, the contributions of the private school are: First — It serves to educate the individual family to the necessity of shouldering their own mental burdens and thereby lightening the economic drain upon the community.

Second — It emphasizes the needs and the accomplishments of individualized training.

Third — It offers a home environment which is best adapted to the happiness, the physical, moral and intellectual welfare of the individual.

EXAMINATION OF RETARDED CHILDREN IN THE PUBLIC SCHOOLS

By Anna M. Wallace, M.D.
Edith E. Woodill, M.D.
Walter E. Fernald State School

The influence of Dr. Walter E. Fernald upon the organization and establishment of State-wide school clinics for the examination of mentally retarded school children is widely recognized, but perhaps only those who were intimately associated with him in this work realize the immense amount of thought and planning this work entailed.

Dr. Fernald was appointed Superintendent of the Massachusetts School for the Feeble-Minded in 1887. Soon after this, parents and friends began to bring their problems to him for diagnosis and advice. Early in his career he recognized the importance of extending the work with the feeble-minded into the community. Up to 1914, 3,000 cases had been presented for diagnosis, prognosis and advice as to treatment and care. In spite of the extremely busy life he was leading in constructing a new institution, organizing methods for the care and training of the patients, at times acting as steward, treasurer and superintendent, and of keeping in personal touch with the most minute details pertaining to this work, he always found time to carry on this extra-institutional work.

In 1891, the out-patient work at the institution had grown to such proportions that it became necessary to set aside one day each week for the purpose of examining and giving advice to any outside of the institution who were in need of this service. This was designated as Out-Patient Day.

The examination and diagnosis of patients in the early days was not a simple matter. He had none of the present-day helps in diagnosis. There was no concept of mental age nor intelligence quotient nor could the help of trained assistants such as psychometric examiners, trained social workers, teachers, etc., be obtained. Up to 1911, when the Simon-Binet tests were introduced by Dr. Goddard, no formal mental tests were available and it was necessary for Dr. Fernald to formulate mental and school tests of his own and to rely upon his own judgment and experience with the mentally defective for diagnosis. About 1913, he evolved the "Ten Fields of Inquiry" which are used very extensively at this time as a syllabus for examining the mentally defective in school and other clinics in this and other States. He was skilled in pedagogy, having taught school in his early youth, and this knowledge and experience was of great help to him. In 1914 he wrote an article in the *American Journal of Insanity* on "Diagnosis of the Higher Grades of Mental Defect" which set forth his ideas. With his usual broadness of vision he early realized that mental tests alone were not sufficient for making a diagnosis and giving advice.

The graded school tests, now a part of the "Ten Fields of Inquiry," required a great amount of work and thought and Dr. Fernald, in collaboration with the principal teacher, spent much time upon this. In examining patients he found that the history of school progress and the actual school achievement did not coincide. Many children were promoted by height and weight instead of actual school progress. Although there were many graded school tests in different subjects, they were all too elaborate and lengthy to be usable in a school clinic, so he conceived making a school test which included graded reading, writing, arithmetic, spelling, geography and language, which could be marked plus and minus much like the mental tests. After this he conceived the idea of a correlation chart in order that the correlation of mental age, intelligence quotient and school acquirements could be graphically shown in a simple way and could be made available for the use of teachers, judges, social workers, etc., without going into details of examination.

It was one of his principles of organization that a thing only one person knew or could do was of no lasting value. He spent much of his life putting things on a permanent basis and making them available for the use of other people. The value of his contributions to rational methods of diagnosis of mental defect is immeasurable, and without these methods the successful establishment of Public School Clinics would have been difficult.

The out-patient clinics at the institution proved very helpful and were used by societies, state and city departments, courts, individuals and schools, and yet he felt that this work could be broadened. Early he began to talk about mental clinics in connection with public schools. In a paper read before the National Conference of Charities and Corrections in Baltimore in 1915 he said:

"Mental clinics, now in successful operation in almost every large city, furnish expert advice for many of the pressing problems of the public schools, the courts and the community. They should be increased in number and so extended as to be available for the entire population of the State. Out-patient mental clinics should be a part of the work of every institution for the feeble-minded. The expert clinicians and psychologists of those institutions, already in the service of the State, should be utilized in the organization and conduct of these clinics in different parts of the State."

When he was approached by the school authorities of Worcester and asked to hold clinics in connection with the public school system, he at once agreed to do this. The first clinic was held at Worcester, Massachusetts, in January, 1915. Soon the school authorities of other cities became interested and a second school clinic was started in Fall River in February, 1915; a third in Haverhill in September, 1915; a fourth in New Bedford in January, 1916; a fifth in Newton in May, 1916. These first public school clinics were held once a month. The superintendents of the Worcester State Hospital and of the Taunton State Hospital co-operated in the management of the clinics at Worcester and New Bedford. They sent members of their staffs who gave able assistance.

In addition to the regular monthly school clinics, several were held by the school clinic staff — at Taunton, 38 children in special classes; at Braley Station, a group of 41 children thought to be mentally defective; a group of 15 children at Hyannis, and another group of 15 candidates for special class at Falmouth, and 36 retarded school children at Revere. The total number of children examined in School Clinics up to 1921 was 1,297.

In writing of the economic value of this work in 1919, he said, "It costs over $1,000 to house a patient in the institution and over $300 a year to feed him. Thus our out-patient clinics save the State thousands of dollars a year."

The first school clinics were experimental. It had been predicted that much opposition would be encountered and that people would object to having their children singled out in this way. Due to Dr. Fernald's diplomacy, wise management and education of the public, this fear was proved to be without foundation. It was the experience of the members of the staff working under Dr. Fernald that the parents were glad to have advice and welcomed the examination when it was given in a sympathetic way.

The humanitarian side was always uppermost in his mind and he was constantly impressing this upon the minds of the examiners. He said in one of his monographs, "The usefulness of the clinics depends largely upon the tact and sympathy of the examiners towards the pupil and his parents and the school authorities. A mistake in diagnosis would be a tragedy."

In his paper on the "Inauguration of Public School Mental Clinics," he said, "These clinics were made constructive from the start, the purpose of the examination being not to discredit the backward child in any way but rather to find his present capacity for training, his probable rate of progress, his personal handicaps or special abilities and the like. In other words, this examination catalogues his possibilities as well as his limitations and has for its main purpose the idea of improving the child's condition as much as possible."

The demand for clinics in connection with the public schools steadily grew, but he felt more could not be undertaken until a larger organization for handling them could be planned and the school clinics made to cover the entire State.

In his annual report in 1919, he expressed his opinion of the value of school clinics as follows:

"Several other cities have made requests for similar clinics. At these clinics during the past three years we have given advice concerning a larger number of patients than are now present in the School. In other words, we are helping to care for as many patients in their own homes as are being supported by the State in the School itself. Many patients are thus safely kept at home who would otherwise be State charges."

He had always felt a great interest in the establishment of Special Classes and he felt that the Public School Clinics could be of great assistance in this work.

In November, 1919, he had outlined a comprehensive statewide program and in his monograph on a "State Program for the Mentally Defective," read at the Children's Bureau at Washington in 1919, he said:

"To sum up, the program now possible includes the mental examination of backward school children; the mental clinic; the traveling clinic; the special class; directed training of individual defectives in country schools; instruction of parents of defective children; after-care of special-class pupils; special training of teachers in normal schools; census and registration of the feeble-minded; extra-institutional supervision of all uncared for defectives in the community; selection of the defectives who need segregation for institutional care; increased institutional facilities; parole for suitable institutionally trained adult defectives; permanent segregation for those who need segregation; mental examination of persons accused of crime and of all inmates of penal institutions; and long-continued segregation of defective delinquents in special institutions."

Previous to the passing of the laws in 1919 relative to the examination of children three or more years retarded in the public schools, he had in a prophetic sense outlined the way in which the work could be carried on. He had by conferences, lectures and publications prepared the way for this legislation, and the successful carrying out of this program has been largely due to his indefatigable labors.

He was much impressed with the need for an official census of the feeble-minded in the State — "Those only to be registered who had been scientifically diagnosed, such register to be highly confidential and accessible to properly accredited persons." He felt that such a census of the feeble-minded would make State supervision ultimately possible.

In a paper read before the Massachusetts Society for Mental Hygiene he said:

"Our compulsory school laws now bring every child to official notice. The school census alone, including as it does every child in the community whether he goes to school or not, would, in a few years, reveal and record the existence of nearly every feeble-minded person. Such registration would be merely analogous to the required notification and record of cases of infectious and contagious disease. This co-ordination of existing records would be available for social workers, school authorities, and other agencies and would be of enormous service in the solution of the individual problems which the feeble-minded constantly present."

In July, 1919, the Massachusetts Legislature passed laws:

First: Relative to the establishment of free school clinics by the Department of Mental Diseases. A registry of the feeble-minded was to be established and maintained by the Department of Mental Diseases.

Second: To determine the number of school children three or more years retarded in mental development, and that the school committee should establish special classes in each city and town where there were ten or more children three or more years retarded.

The law provided that the school clinic should be under the direction of physicians from the State schools for the feeble-minded, or other physicians skilled in the care and treatment of the feeble-minded. It was seen very early that the schools for the feeble-minded could not possibly cover the ground and, at the request of the Department of Mental Diseases, a conference was called by Dr. Fernald in November, 1920, and was held at the Massachusetts School for the Feeble-Minded, now the Walter E. Fernald State School. One or more physicians were delegated from each of the fourteen mental hospitals. The object of the conference was to train these physicians in the diagnosis and recognition of feeble-minded and backward children of all ages and grades of mental defect in order to obtain uniformity of method in diagnosis and records.

These psychiatrists spent an entire week in all-day sessions. There were many lectures by Dr. Fernald and he gave demonstrations of typical cases of mental defect. Each psychiatrist was given an opportunity to examine many individual cases. He held these conferences practically every year until his death.

In addition to the school clinics, which had been held by the Massachusetts School for the Feeble-Minded and the Wrentham State School since 1915, the Department of Mental Diseases and the State Department of Education, under the advice and guidance of Dr. Fernald, in March, 1921, organized clinics throughout the State. The State was divided into fourteen districts, each district to be under the direction of a psychiatrist from a State institution. Each travelling clinic unit consisted of the psychiatrist, social worker, psychologist, and a clerk, the school department furnishing a teacher to give the school tests and also a school nurse or other socially-minded person to furnish the histories of the patients.

The work was practically carried on as laid down by Dr. Fernald in the Waverley clinics for many years. He was unsparing in his efforts to aid in every way in the organization of the travelling clinics and in the training of the various workers in the clinic. Teachers who were to give the school tests were sent to Waverley from all over the State to get instructions as to the technique in that field. Social workers and school nurses obtained instructions in the same way as to the methods of history taking.

He followed the work of the first school clinics very closely. He personally went over the records of each child examined in the clinic. He worked out a very exact technique for conducting the clinics. The personnel, the now famous ten-point syllabus which had been adopted by the Department of Mental Diseases, the correlation chart, the school test, suggestions as to advice, the keeping and reporting of the records, etc., had all been formulated by him. In this way this work was co-ordinated and made uniform.

Up to the time of his death he continued to give advice and guidance to the workers all over the State. He presided and spoke to conferences of these workers. He visited the clinics and made every effort to interest school superintendents, school committees and other officials and, in every possible way, worked to create a state-wide interest in the work of the school clinics.

In 1925, Dr. Harvey Watkins of the Department of Mental Diseases made a report in which he says, "The great success of these clinics is evinced by the fact that 121 cities and towns in the Commonwealth have requested such examinations, and such clinics have been held in 116 of these cities and towns."

A later report from Dr. Neil A. Dayton, Director, Division of Mental Deficiency, says that the number of children examined by all travelling clinics from 1921 to 1928 is approximately 38,000. He states that no clinics have been discontinued and all are active at the present time.

The Waverley travelling clinic alone has examined 12,000 children from 1921 to 1928, and forty-two cities and towns in Massachusetts have been visited by this clinic.

In a paper read before the American Association for the Study of the Feeble-Minded at Washington, D. C., in 1924, Dr. George M. Kline, Commissioner of the Department of Mental Diseases of Massachusetts, well expressed the indebtedness of the State to Dr. Fernald for his efforts for this legislation and carrying out of the travelling clinic and for eventually securing a common-sense State program for the feeble-minded.

Dr. Kline says: "The Department of Mental Diseases has been and is exceedingly fortunate in having in the State service Dr. Walter E. Fernald. It is a pleasure to acknowledge at this time the Department's indebtedness to him for advice and guidance in all matters relating to the problems of the feeble-minded. Whatever accomplishments Massachusetts has made in this field may be largely credited to him."

His interest in this work never flagged and it is significant that the last week of his life was spent in giving a course of lectures and demonstrations to physicians from the State hospitals to prepare these psychiatrists to conduct the school clinics which were assigned to them. He had practically finished this training class when he was stricken with his last illness. It seemed fitting that his last day at his post was spent in demonstrating to this fine group of psychiatrists, both men and women, an unusually large Thursday out-patient clinic. Nor did he neglect on that day to interview the mothers and other anxious relatives to whom he gave the usual comfort and help, as well as advice as to the child's needs. The mothers and others who talked with him for only a few moments, when they heard of his death, felt that they had lost a friend.

Strangely enough, the extensive program above outlined as far back as 1915, has been practically carried out in each detail in this State, and especially in the organization of the travelling school clinics the results have been most successful.

FERNALD'S INFLUENCE ON THE SPECIAL CLASS MOVEMENT

By Miss Frances E. Cheney,
Trustee, Belchertown State School

OUTLINE

Part I

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2. First contacts with public school problem of retardation
3. Personal service in establishment of first two special classes in United States
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5. Practical suggestions
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PART I

FERNALD'S INFLUENCE ON THE SPECIAL CLASS MOVEMENT

In reviewing the activities of Walter E. Fernald during the first seven years of his superintendency of the Massachusetts School for the Feeble-Minded, and in reading his paper written in 1894, entitled, "Some of the Methods Employed in the Care and Training of Feeble-Minded Children of the Lower Grades," one is impressed with the fact that however great the man was as an organizer and administrator in those years of expansion of the care of these unfortunates, he was *par excellence* an educator. His paper reveals these facts: *First*, that he has accepted the principle formulated by Samuel Gridley Howe, founder of the School, that "the school for the feeble-minded is a link in the chain of common schools, the last indeed, but still a necessary link in order to embrace all the children in the State"; *second*, that faced with the problem of caring for increased numbers of "relatively young children of the lower grade," untrained and well-nigh unmanageable, he has determined to solve this problem by means of education.

He proceeded at once to apply and adapt the principles of sense training and the development of motor-coördination devised and used by Edouard Seguin, pioneer educator of the feeble-minded. Thus he raised the level of behaviour and intelligent activity of this particular group. He closes the paper with the statement: "Indeed, books, slates and the conventional curriculum of the schoolroom are not for these low-grade children. Yet all of this training is education in the truest sense." The methods which he developed are still in use and have become models throughout this land. He shows at this time that he is conversant with the "new education," as he calls it, and understands the educational needs of the normal child from infancy on. Ample proof of this is seen in his development of the graded academic departments of the school at Waverley, with emphasis on object teaching, physical training, manual and industrial activity.

The knowledge of his skill as an educator had spread across the continent to California where Will S. Monroe, superintendent of schools in Pasadena, had made a psychological study of 10,000 retarded public school children. Monroe writes that while making this study a "medical friend" suggested that he might "get help from Fernald." He adds, "I opened correspondence with Dr. Fernald and found his suggestions of a very practical nature. That was before the days of mental tests and the large body of literature that we now have on the psychology of mental deficiency — later (1896) when I took charge of the department of psychology in the State Normal School at Westfield, Massachusetts, and continued my researches in this line, I frequently visited Dr. Fernald at Waverley and again found his large knowledge of the entire field most illuminating. I owe to him a very large debt of gratitude, and I am certain that he placed hundreds of others under the same obligation."

As a result of his research Monroe published a paper in 1894 entitled, "Feeble-Minded Children in the Public Schools," making a strong plea for the segregation of these children in public school special classes.

In the following year, 1895, in his Annual Report to the trustees of the School at Waverley, Fernald alludes to this paper and shows that he has given the matter serious thought for he tells of the growth of the movement in Germany in 1881, later in Sweden, Norway, and Denmark, and the beginnings in England, in London in 1892. He closes thus: "It is a question whether it would not be practicable in some of the larger cities of this State to establish similar classes as a part of the public school system, where the 'mentally exceptional' children could easily receive the special instruction needed at the age when such training is most beneficial without going away from home. The teachers in the lower grades of our public schools can testify to the necessity of such provision."

In 1896 the opportunity came to him to be of personal service in the establishment of the first public school special class for mentally deficient children in the United States. This was in Providence, Rhode Island, where the school authorities had decided to remove from their three so-called disciplinary schools (organized in 1893) certain pupils whose educational needs were not being met on account of obvious mental defect. In a short history of the special class movement in Providence written in 1899 by Rhoda A. Esten, supervisor of special schools, we find: "I cannot close this report without expressing my thanks to Dr. Walter E. Fernald to whom I am greatly indebted for help, inspiration, and valuable opportunities for observation." The present supervisor, Mary C. Greene writes, "When I came into the work in 1918, Dr. Fernald gave me valuable assistance. His advice was sound and I feel that his spirit pervades all my work in special education."

In 1897, Fernald addressed the New England Association of School Superintendents in Boston on the subject, "Feeble-Minded Children in the Public Schools." He said, "Whenever possible these mentally dull children should be taken out of the school and placed in special classes with experienced teachers, under intelligent medical supervision." He described the grades of mental deficiency from idiocy to the backward child and outlined the special training applicable to each grade.

This paper produced a profound impression upon progressive superintendents of schools, among whom was Thomas M. Balliet, of Springfield, Massachusetts.

Dr. Balliet, who recently retired as Dean of the School of Pedagogy of New York University, says of the paper: "It was a very influential factor in the establishment of these classes. His own work at Waverley, the methods he developed, had much to do with the movement. Superintendents and teachers visited his classes and went away feeling that the project was a practical one." Accordingly in May, 1898, the first special class in Massachusetts was organized in Springfield.

From time to time Fernald formulated his reasons for the establishment of such classes and gave constructive suggestions as to organization, equipment, curriculum, the training of teachers, and kindred matters. It was his interest in the welfare of the individual child which led him to make the following statements in defense of the maintenance of special classes: "The first and most important reason is that every American child has the right to be educated according to his need and capacity. We have no right to do less for the child of 50 or 60 or 70 per cent intelligence than we do for his brother with 100 per cent intelligence." He believed that the retarded children "should be isolated from the ordinary school" in order that "the normal children should not be annoyed or hindered by them." In turn, he considered the benefits accruing to the mentally deficient group: "The pupils would be put under special training much earlier — when more can be accomplished *for* and *by* them. Under present conditions many defective children are entirely deprived of opportunity for education, — unless they are properly cared for and influenced they will retrograde, fall into evil ways and become willing victims of the vicious." He describes graphically the fate of neglected young children whom he had seen, "simple-minded, trusting, affectionate, anxious to please," who later developed "an entirely changed view of life, a change brought about by misunderstanding, by continued defeat, by the repeated depressing influence of failure which led the boy or girl to commit some anti-social or overt act in self-defense or in defiance of the world which had given such boy or girl nothing but rebuffs and disapproval."

From the point of view of the home, he said, "Parents with refined, comfortable, well-regulated homes would greatly prefer the special classes to an institutional school, especially when the child is young." He also speaks of certain children who are placed in the institution, as being deprived of "normal home life, the moral and social influence of the mother, and of wholesome relations with the community."

From the economic standpoint he states: "These special classes do not involve the expense of large sums of money for construction of buildings — the actual expense of such teaching is directly assessed upon the community receiving the benefit." He advocated "special laws or definite school regulations," for the formation and conduct of the classes.

As to the selection of pupils, during the period antedating the discovery and application of mental tests, he advised cooperation between the teacher and the school physician, diagnosis to be corroborated by "a medical expert familiar with all phases of mental defect," and that "imbecile and idiotic" children be excluded. He recommended that the teacher make written reports of each child, recording "personal history, attainments, deficiencies, habits, home conditions, etc."; that the school physician record physical, nervous and mental symptoms, and that immediate and special attention be given to the improvement of the physical condition of the children. Careful records of progress should be kept with re-examination at stated periods, "to ascertain whether any children had improved enough to re-enter the grade class."

Among the qualifications for teachers he notes that they should be "fond of children, sympathetic and kind, but firm and decisive. — The personality of the teacher is the all-important factor. They should begin the work young, as a rule," with a background of "some experience in primary work," and should have "a hopeful temperament, great patience, tact, and originality." He goes so far as to say that "*no* teacher is qualified for *primary work* unless she understands the signs and symptoms of mental defect, and has actually observed and studied groups of deficient children." — "Provision should be made in normal schools for the training of teachers of defective children."

When he visited special classes in England in 1901 he found teachers whom he describes as "superior, well equipped for their work, with enthusiasm and zeal and great personal interest in their pupils, keeping in touch with the homes of the children and trying to secure the cooperation of the parents."

In large cities he believed that "all of the special classes should be under the immediate direction and supervision of a supervisor who has no other duties. She should be thoroughly familiar with the recognition and education of retarded children."

In 1906, he deplored "the almost total absence of skilled and responsible supervision of the special classes in American cities" as a "great detriment and handicap."

For the housing of these classes he suggests that in large cities they may be "in a locality where children from two or three large primary schools may be collected at a central point," and that "as far as is consistent with the special care and training which they require" they should "associate with normal children of their own age on equal terms. If these backward children are to spend their lives in the community they should in childhood learn to observe the customs and requirements of that community." But — no matter whether classes were housed singly, in small groups, or in centers he insists that "no intimation of reproach of inferiority should be tolerated."

He recommends for "every moderate sized city a workshop school with lathes, looms, anvils, tools, and other appropriate working equipment," where "the rudiments of woodwork, metal work, textile work, etc.," may be taught. He suggests that the equipment in these schools might be "varied according to the leading industries in the various cities," though he believed that it was not necessary that the children should be "taught definite trades," the main object being, "to teach them how to work and to love to work." For older girls the instruction should include "ordinary domestic work, cooking, laundry, sewing, mending, etc."

In 1921, he reiterated his conviction of the need of "providing decent, red-blooded, occupational, pre-vocational training for feeble-minded boys and girls between 13 and 15 years of age," and added: "The success of the special classes will be measured by the relative ability of the trained pupils to maintain themselves independently in the community and to earn their own living."

He shows concern for the welfare of children in villages and remote rural districts who cannot be placed in special classes. He would have *all* normal-school graduates familiar with the limitations and needs of the retarded child. He suggests that the state furnish "small, compact packages of special school material" for the use of these children, "similar to the travelling library service." He commends a teacher's manual comparable to that compiled by Arnold Gesell of Connecticut. He hopes for the time "when every state board of education will have trained visiting teachers or special supervisors who will go from town to town supervising the education of sub-normal children" and will provide "extra compensation for rural teachers or for

HARVESTING APPLES
Templeton Colony

teachers in small towns who give special out-of-school instruction to their defective pupils."

As to the type of academic work which special class children need, he states, "Compared with the education of normal children it is a difference of degree and not of kind — the progress is slower, and the child cannot be carried so far." The need is for "modern graphic methods of instruction with large emphasis upon attractive, sensorial, and motor aids to the exercise and expression of attention, observation, perception, and judgment." The work should be "within the child's comprehension," and the teacher should bear in mind that "the best that a child can do is good enough."

He stressed the importance of motor training, to arouse "the feeble powers of voluntary attention, comprehension, and the weak power of volition through games and exercises, simple at first and gradually growing more complex."

Occupational work in great variety should be devised to train "the finely coördinated muscles of the fingers, hand, and forearm. — There is a very intimate relation between what a child knows or thinks, and what he can do with his hands."

He warns against over-emphasis on scholastic achievement. He writes, "Social, moral, and emotional discipline, and example, are quite as important for the defective child as strictly scholastic training," reminding teachers that "his adult conduct and behavior will be conditioned as much by the modification of his traits of disposition, personality, and character as by his intelligence."

Fernald was keenly appreciative of the value to all concerned with education of Goddard's contribution to the knowledge of the intellectual status of the feeble-minded, when by his research and study he adapted the Binet-Simon tests to American conditions. He saw the practical value of the concept of the mental age, its correlation with the school grade level and with the chronological age; also that this with the concept of the Intelligence Quotient, made possible a prediction as to the "adult scholastic level of a feeble-minded child, and the probable adult mental age of that child," and shed a new light on the "possibilities and limitations of his education."

He then devised a "Chronological, Mental and School Age Correlation Chart" for use in his records of individual children at Waverley. These charts are now available to special class teachers whose children are examined through the State Clinics. They picture in a graphic way the mental status of the child and provide a means of recording progress from year to year. He would remind teachers, however, that to diagnose, understand

and educate the feeble-minded is not a simple matter. The research work done at Waverley in 1914 using the Binet test in combination with other tests which he devised, the published result, "The Diagnosis of the Higher Grades of Mental Defect," followed by a further study in 1917, "Standardized Fields of Inquiry for Clinical Studies of Borderline Defectives," show his conviction of the complexity of the problem of mental diagnosis, "and did much to broaden the field which the special class served," to quote Dr. A. Warren Stearns.

That he considers intelligence as but one of many factors to be considered is shown by this statement: "An individual defective may be expressed or described only by an equation — his intelligence + his body, + his family, + his training, + his personality traits, + his morals, etc." The natural outcome of these convictions was the formulation of his well-known blanks entitled "The Ten Fields of Inquiry," used for some years in the out-patient clinic at Waverley, and since 1922 by the Massachusetts School Clinics in their examinations of children "three years or more retarded in mental development." In the light of the complexity of the whole problem, he states: "We can no longer say they all need this or that."

From the early days of special classes Fernald was concerned with their function as clearing houses to determine which children could with safety be kept in the community, and which needed either temporary training in the institution, or permament protection. He stressed the importance of social supervision, and for some years his conviction as to ultimate segregation was in accordance with the statement made in 1906: "Feeble-minded children may be tolerated in the community, but any plan for the treatment of this class should provide for the withdrawal from the community of the adults." The superintendents of other state institutions shared this conviction; one of them stated during a discussion of special classes: "It is our duty to point out the limitations of usefulness for such schools." This was soon after the discouraging report of the after-care committee in London at the end of fifteen years' experience. Of this report Fernald writes, "It has not been demonstrated that a large proportion of really feeble-minded children can be so educated and trained as to be able to support themselves by their own effort and wages; or that they become wholesome or desirable members of society."

In 1912, at a meeting of the National Conference of Charities and Correction, Alexander Johnson stated: "The righteous have sworn the segregation of the feeble-minded in 1925." This period was described later by Fernald as the "period of pessimism." At last the tide began to turn. That Fernald himself had been heartened as early as 1915 by the experience of a special class teacher, is shown by an extract from his paper, "What is Practicable in the Way of Prevention of Mental Defect," "The possibilities of extra-institutional supervision, early diagnosis, and long continued education of the parents and the community are well illustrated in the experience of a socially-minded teacher of a public school special class in Massachusetts. This teacher has taught this class for seventeen years, and some of the pupils in her first class are now over thirty years of age. In addition to her duties in the schoolroom, she frequently visits the homes of her pupils, and often confers with the neighbors, the policeman and the clergyman, as well as the parents. After the children have left her class, she has kept in touch with them and with their parents. She has made much use of mental clinics in ascertaining the exact mental status of her pupils. When her pupils or former pupils have needed something more than home care, she has already prepared the parents for the transfer to an institution. In all these years none of her female pupils have become mothers or are known to have been immoral, and none of her boys who have remained at home have yet become criminals or especially troublesome."

His own investigation made in 1916, "After-care Study of the Patients Discharged from Waverley for a Period of Twenty-five Years," showed that many of these patients "under favorable circumstances constituted no serious menace to the community."

From 1916 on, reports of studies of special class graduates made in New York, Boston, Cleveland, Cincinnati, and other cities were on the whole favorable. Gradually the conviction grew that certain trained defectives should be given opportunities for maintaining themselves in the community and that Fernald had clearly stated the function of the institution when he said, "Institutional care and training is the obvious remedy for the highly hereditary class of defectives, for the bad defectives, and for those defectives who are not properly trained and cared for by their parents." That the special class should participate in this work of selective segregation, he never failed to stress.

In 1923, Fernald was as insistent in regard to the need of social supervision of the special class child during school life as he had been in previous years. He said to the Harvard Teachers' Association, in his paper on "The Subnormal Child": "In the public school system to-day, the school nurse, the attendance officer, the visiting teacher, or the child's teacher, should be familiar with the subnormal child's entire life, not only in the schoolroom, but in the community and in the home. They must inform the parent of the child's possibilities and limitations, and warn of the dangers of the adolescent period. This continued social supervision by the school authorities up to the age of 16, when the child leaves school, almost assures that he will have safely passed the greatest dangers of his adolescence." And, in the following year, 1924, we find the renewed expression of the earlier belief that supervision should be continued during adult life, in the essay written for a volume entitled "Social Aspects of Mental Hygiene" (Yale University Press), published after his death. His subject was: "The Feeble-Minded in the Community." In his sub-topic, "Supervision of the Feeble-Minded," he pleads for systematic supervision in the community, with a responsible state officer in control; "a psychiatrist with special knowledge of mental deficiency and its many social expressions." He advises making use of "existing local public and private organizations and societies, or of properly qualified volunteers in each community" — under the direction of the state officer, "but all under the direction of the central authority."

The fruition of his interest and activity in the special class movement, covering a period of thirty years, was the legislation enacted in 1919, becoming operative in 1922, providing for the examination of school children three years or more retarded in mental development, and making obligatory the establishment of special classes in connection with the public schools throughout the state. This provision was but a part of the State program which he outlined as he saw the whole problem in its many phases.

It was characteristic of Fernald's open-mindedness and modesty that he should speak of the program thus: "It will be modified and developed as our knowledge and experience increase."

PART II

A discussion of Fernald's influence on the special class movement in Massachusetts would be incomplete if it failed to attempt to reveal, however inadequately, his whole-hearted, self-sacrificing, personal service to individual teachers and school superintendents who felt the inspiration of the moral force of his character and the challenge of his message.

The assistance given to the pioneer teachers was such that many felt that they owed him a debt of gratitude which could never be repaid save by efforts to render, to the children whom they were privileged to teach, the type of service which his own life exemplified; as one of them said, "His advice and the vision he had of our work inspire me to try in a humble way to carry on the work as he would want it done, and my memory of his unaffected, generous, helpful personality, leads me to want to be of every bit of service to these children, it matters not how little or simple that service may be." Special class teachers were always heartily welcome at Waverley. Fernald would, if possible, first show them the helpless idiots, then the training classes composed of children of imbecile grade, next the kindergarten group, and last the children of the graded school. This plan was in accordance with his theory, to quote one of his co-workers: "In order to work successfully with the higher grades one should understand the method of training the lower grades." One teacher remembers his placing in her hands, in 1898, Seguin's book, "Idiocy and Its Treatment by the Psychological Method," saying, "This is a classic. Read it." He allowed this teacher to study his personal notebook in which were outlined games and special exercises for the development of muscular co-ordination, also lessons in sense-training, together with suggestions for manual work, all of which were being used in the education of low-grade and middle-grade children. He frankly acknowledged that Seguin was the source of his inspiration for this type of education.

The late Edwin P. Seaver, superintendent of schools in Boston, wrote, in a letter to the Boston *Evening Transcript* of November 15, 1898, an account of the beginnings there to provide special classes. He quoted Fernald at length, and acknowledged the assistance he had given in securing a teacher for the first class which was to be formed in January, 1899. In 1902, when Seaver felt the need of further public support, Fernald spoke before a special meeting of members of the Massachusetts Civic League on the importance of the work, and again in 1903, when the late Dr. Walter Channing and Professor Will S. Monroe also spoke. At the close of this meeting a committee was appointed to confer with the Boston School Committee to assure the latter of the support of the League. About this time Fernald used his influence in securing the appointment of the late Dr. Arthur C. Jelly, alienist, as medical inspector of the classes, which position he held until 1926, giving mental as well as physical examinations to children who were candidates for special classes. Shortly before Dr. Jelly's death in 1929, he said: "At a medical meeting about two years ago I reported on special classes in Boston schools, and remember saying that they were a sort of *living monument* to Dr. Fernald's efficiency."

In 1912 Fernald was influential in persuading the Boston School Committee to form more classes, and to appoint a supervisor. Honorable Joseph Lee, then a member of the Committee, writes of this occasion: "I remember that his influence was potent in persuading the Committee to increase the number of classes from 8 to 75, that he appeared at several hearings before the Committee and impressed it in a decisive way. — He was one of the great educators of our time." This expansion of the work in Boston led Fernald to offer to give special assistance to the new teachers. He at once arranged to hold clinics for them at Waverley, and to give them opportunities to visit the various departments of the School. From 1912 to 1915 he lectured to them on the following topics: "The Value of Sense-training," "Problems of Special Class Teachers," and "The Social Aspects of our Problem." He accepted with some reluctance the compensation offered by the School Committee. He said, "I am never so happy as when I feel that I am of the slightest service to these classes." Appreciation of this service was voiced by the teachers: "I never cease to marvel at the amount of cheer, courage, refreshment, and invigoration that comes to one through listening to Dr. Fernald." — "He made me feel so much like cleaning house in my class room, mentally and spiritually." — "He made me wonder if I always knew what *good* a lesson was going to do a child."

In 1914, he expressed willingness to co-operate in a movement for an after-care officer for graduates of special classes, and in 1915 outlined specific recommendations to the School Committee. He again made clear, in 1917, the purpose of carrying out the plan, in a letter to Ada M. Fitts, supervisor of special classes: "I have long regarded this as an indispensable part of the special class program. — This supervision would enable us within a short time to distinguish those pupils who can be profitably trained in the public school classes, and those who ought to be sent to an institution, before the special class work can be profitably carried on. I am sure that one year's supervision of this sort would give information which would save a great deal of money in the administration of these classes. I shall, as always, be glad if I can be of the slightest service to you in this connection." Four months later a special class teacher was transferred to the new field as "Teacher Assigned to Follow-up Work." In 1919 he gave practical suggestions about data to be recorded on after-care blanks: "It would be better not to say that a boy is 'doing well,' or 'is improving,' but to say that 'he has stopped running around nights,' and that 'he now obeys his mother whenever she directs him'." The present incumbent of the position writes, "I could always turn to Dr. Fernald for advice, taking and sending many problem cases to the Thursday clinic (at Waverley). His wonderful way of telling intelligent parents the absolute truth was an inspiration each time I heard it.

He was as kindly and honest to ignorant parents." The Boston classes now number 129, and are maintaining a reputation of which the city may well be proud.

Honorable Payson Smith, Massachusetts Commissioner of Education, gives his estimate of the value of special classes, and of Fernald's contribution to their success: "Special classes in the public school system of Massachusetts are establishing desirable mental, physical, and moral habits in the lives of thousands of boys and girls who are retarded in mental development. These boys and girls are for the first time experiencing the satisfaction of successful achievement. Dr. Walter E. Fernald did more to make these classes a success than any other person. His untiring zeal and enthusiasm helped to awaken public interest and to bring about legislative action requiring such classes as a part of the public school system of Massachusetts."

Special class teachers in many sections of the State testify to the assistance given to them by Fernald. Limitations of space make it impossible to record all of the tributes. One writes, "My superintendent and I went to him many times for advice upon unusual cases. He always could help us and kept us feeling that the special class was about the most important part of the whole school system. Upon his advice I spent two summers at the institution, working as an attendant, and he always gave me the privilege of attending all lectures and clinics which would help me in any way." Many other teachers, including undergraduates from normal schools, were given this summer privilege. "We sometimes had from 15 to 20 in this group, and many of them went into special class work, while others became interested in the testing and diagnostic side of the work," writes Jennie C. Lowden of Toronto, who was associated with Fernald at Waverley from 1906 to 1917. Dr. Ransom A. Greene states that this door of opportunity is still open.

Fernald never refused requests to speak to groups of teachers if he could possibly arrange to do so. Worcester recalls his address before the primary section of the Worcester County Teachers' Association in 1911, on "The Special Class in the Public School." In 1915 he spoke to all the public school teachers of Lowell. A report of this talk notes that he "made clear to all, the problem of the retarded child and the opportunity which the special class offered to that child." His subject in June, 1922, at a meeting of the Waltham Teachers' Association, was "Intelligence Tests." These teachers were given a special invitation to visit Waverley on the following holiday, June 17. In the same year he addressed the Bristol County Teachers'

Association on "The Significance of Variations in the Intelligence of School Children." At this time he spoke of the retarded child as being "generally misunderstood and often very unfairly treated." He reminded teachers that "limitation in intelligence does not indicate limitation in character, personality, honesty, and other qualities which go far toward making up for limited intelligence," and closed by saying, "After all, the teacher's job is to help boys and girls to become honest, brave, and useful men and women."

He was ever ready to co-operate with teachers by taking into the institution, from the special classes, children in need of the protection, supervision, or training which the institution offered; those from families having a highly hereditary taint; those whose environment and home training was particularly unfavorable and inadequate; and those with markedly delinquent tendencies. In regard to this latter group, he had little patience with a special class policy which neglected placing children in the institution until after "they had been educated at home and on the streets, and had gained experience and facility in crime."

He welcomed opportunities to meet superintendents of schools. One superintendent writes of "a round-table conference of the Old Colony Superintendents' Club," "I recall very well the day spent with Dr. Fernald. Some 15 or 20 superintendents were present, and Dr. Fernald sat down and talked with us informally about special class work in general, and our problems in particular." Another writes, "'It was a delightful and instructive day." On two occasions he spoke before the Association of Massachusetts School Superintendents, in 1916 on the topic, "The Education and Care of Special Groups of Children," and in 1920 on "A State Program for the Education of Mentally Retarded Children." The latter talk was illustrated by large charts and graphs which he had prepared in order to show the classification of various grades of mental defect; the correlation of chronological, mental, and school age; also the prediction of the probable adult mental age and the final school grade, of a given child, based upon his intelligence quotient.

Statistics for the year 1929 show that 118 towns and cities in Massachusetts maintain special classes. In an attempt to secure concrete evidence of Fernald's influence among the superintendents of schools in these localities, a questionnaire was sent to each superintendent, to which *all* replied. Of these 116 gave definite information; 74, who had organized their classes prior to 1924, acknowledged that his influence had been felt either through lectures, or through personal contact; of the remaining 44, whose classes were established after 1924, 30 reported his influence. Many of these superintendents give instances of Fernald's personal assistance. New Bedford acknowledges his service: "Our new workshop classes are a direct result of his conferences with our assistant superintendent." Others write of taking children to Waverley for clinical examination, of sending teachers there for training, of certain teachers going to Fernald regularly for advice and counsel, of their school nurses taking children to him for his personal diagnosis, and of school physicians visiting the School. Some tell of the service rendered by the Waverley clinical staff which for some years came regularly to their community to examine retarded children (before 1921, when the state clinic was organized to do this work), while others pay tribute as follows: "Dr. Fernald was in personal consultation with us at the time our special class for mentally retarded children was established. At that time he talked to all our teachers on one occasion. He made an unforgettable impression on them all. The thing that won them most was not his great learning, but his great understanding heart. Everyone of the several visits he made here was not only helpful to me, but left a sort of benediction. Just to look at him did one's heart good. Yes, we who knew him remember him with gratitude, and no one anywhere mourned his death more genuinely than we." — "The value of Dr. Fernald's work will be increasingly evidenced as his ideas are put to practical test." — "It is my very earnest opinion that every person connected with school work in Massachusetts has been influenced by Dr. Fernald's work and teachings. We cannot escape that strong wholesome influence for many, many years, whether we wish to or not." — "He was comparable in my mind to Louis Pasteur, in his humanizing philosophy of curative action on the suffering mankind." — "His unfailing courtesy, his sane and constant optimism, and his rare faculty for helping in a most practical fashion are the three characteristics which impressed us all."

Arnold Gesell, Director of the Yale Psycho-Clinic, gives a discriminating estimate of Fernald: "It is my impression that Dr. Fernald had a very humanizing influence upon the special class movement. . . . He appreciated, better than others, the importance of individualizing the training and supervision of the mentally deficient. Much of the influence of Dr. Fernald was exerted through his superior personality which went beyond the limitations of over-academic generalizations in regard to the complicated problem of feeble-mindedness. We can still feel the moderating effect of his sane and humane outlook."

Provision in normal schools for the training of teachers for special classes was ever in the foreground of Fernald's thought.

He had given enthusiastic support to the opening of a model special class at the Salem State Normal School in 1917. This gave opportunity for a certain amount of observation for normal-school undergraduates. In 1921 an optional course in the education of retarded children was offered to seniors, with some practice teaching included. During the six years following, 102 students elected this course. These students visited Waverley annually. Concerning these occasions their instructor writes, "Dr. Fernald always found time to greet us personally, and to speak for a few moments upon any questions with which our students were wont to ply him. Generous with his literature, as well as with his time, he always sent us back with the latest pamphlets of which he had enough to distribute." The principal of the Salem State Normal School, J. Asbury Pitman, expresses gratitude for Fernald's cooperation: "His keen interest in our work brought him here on occasions when many another man would have excused himself upon the ground of extreme pressure of work, on physical inability to assume any additional burden. We are under lasting obligations to him for the many valuable services he rendered us in the work of teacher training, particularly in the matter of the preparation of teachers of retarded children."

Fernald went annually to normal schools in the State, upon request, to lecture to the undergraduates. The following expressions of appreciation of this service, from principals of these schools, are typical: "He came to us always with a message of sound pedagogy and broad-minded wisdom." — "His addresses were among the most interesting and most valuable that we have ever had." — "We found him so earnest and sincere that we were all captivated by him whenever he came." — "In my judgment, the name of Dr. Walter E. Fernald will go down in the history of education in Massachusetts and in America as that of one of our great educational leaders. Although he was essentially a specialist in his chosen field, his work was based upon broad fundamental principles which were applicable to the education of normal children as well as to the training of those of limited intelligence. His natural ability, his thorough preparation, his broad experience, and his enthusiastic professional spirit gave him the vision that made it possible for him to set new standards in the training of the feeble-minded, and for the development of a large proportion of them into self-respecting, responsible, self-supporting individuals."

An outstanding personal contribution to the actual training of teachers, and of far-reaching influence, was begun in 1915, and continued for nine summers. This was in connection with the six weeks course at the Harvard Summer School in the Psychology of Mentally Deficient Children," conducted in cooperation with Professor Walter F. Dearborn. The students went to Waverley each morning for two weeks, and while there were under Fernald's personal charge. The class met daily to hear him discuss the subject from many angles. Groups of children were brought in to illustrate the points made. The lectures were interspersed with visits to the training classes and the kindergarten, and to the schoolrooms where demonstration lessons were given to the children who were assembled for the purpose. The schoolhouse was filled with exhibits of materials used in teaching, and samples of work done by the children. After the lunch hour, the School library, noted for its rare collection of books and pamphlets, was thrown open for the use of the students. Professor Dearborn writes of the course, "Fernald's rare skill as a teacher, his broad human interests and wealth of experience, soon made this a much-sought course, and we shortly had to limit its enrolment. Students, chiefly special class teachers and supervisors, school psychologists, and those preparing for these positions came from all parts of the country and a few from foreign countries. Superintendents of schools, psychiatric social workers, and others from various walks of life also had occasional representation in the course." A teacher from Connecticut writes of her memories: "Dr. Fernald's personality and influence radiated from every part of the institution. Unconsciously it became a part of you and you carried it home." Others said, "Nothing that I have ever done seemed so worth while, helpful, and inspiring." — "His influence was dynamic, and his teaching most inspiring." — "At Waverley we were treated as welcome and important guests. Nothing could ever repay the continual courtesy, goodwill, and helpfulness extended to us so graciously by those who directed and assisted us in our work at Harvard and Waverley."

Although the major part of Fernald's influence on the special class movement, in terms of personal service to individuals, in the formation of public opinion, and later in the molding of legislation was of necessity within the confines of his own commonwealth, nevertheless his influence was markedly felt in diverse ways throughout many sections of the United States and in Canada. Through his connection with the association of superintendents of institutions for the feeble-minded his message was carried to nearly every state in the Union. The official organ of this Association, the "Journal of Psycho-Asthenics" was published quarterly. In the volume for 1897, under "Notes and Abstracts," reference is made to the first conference of auxiliary teachers in Germany, and again in 1899 to the second conference. From 1898 until 1918, Fernald served as an associate editor of the Journal. During the twenty years of Fernald's associate editorship, contributors to the Journal and to the annual meetings of the Association included among others doctors, educators, teachers and supervisors of special classes, many of whom were secured through his influence. In 1899, during a discussion of special classes, he said, "The establishment of special classes is going to modify the problem of teaching the feeble-minded." Three papers on the subject of special schools were given at the annual meeting of the Association in 1900, by residents of three different states: Mrs. Rhoda Esten of Rhode Island, Dr. Samuel J. Fort of Maryland, and Dr. Walter Channing of Massachusetts. At the close of Dr. Channing's paper, Fernald commented, "I heartily endorse this method of teaching these children." In the Journal for the year 1903, Fernald's article appeared: "Mentally Deficient Children in the Public Schools."

The papers relating to special classes, which have been uninterruptedly presented before the Association, and printed in its proceedings, often aroused misgivings, opposition, and serious discussion, but one notes a gradual change of attitude through the years, due largely to Fernald's sane and growing optimism, based not upon theory but upon observation and research.

At various times he was asked to speak at national conferences. In 1903, when the "Special Education" section of the National Education Association had for its topic "Shall the Scope of the Public School System be Broadened to Take in All Children Capable of an Education?" Fernald was asked to lead in the discussion of the mentally retarded child. He gave constructive suggestions concerning the type of instruction needed, and closed with a warning as to the possible fate of unprotected children who remained in the community after leaving school. His article on the same topic was published in the "Journal of Education" of July, 1903.

At the National Conference of Charities and Correction in 1904, he was chairman of the section on "Mental Defectives" and read a paper on the "Care of the Feeble-Minded," which included a plea for special classes. Lydia G. Chace of Providence also gave a history of the special class movement in her paper, "Public School Classes for Mental Defectives." At the meeting in 1907, he stated in discussion: "The public school is the place to study the beginnings of mental defect and moral delinquency." In 1915 when chairman of the committee on the "State Care of the Insane, Feeble-Minded, and Epileptic," he presented to the section on the "Prevention of Mental Defect" his notable paper: "What is Practicable in the Prevention of Mental Defect," in which he outlines the contribution which the special class may make in the field of prevention. A National Child Welfare Conference in 1919 was the occasion of his speaking in Washington, D. C., on "A State Program for the Care of the Mentally Defective."

Many invitations came to Fernald to speak before state as well as national conferences. On six different occasions, between 1908 and 1924, when he addressed the Massachusetts State Conference of Social Work, the subjects considered were for the most part, feeble-mindedness as related to juvenile delinquency, adolescence, or mental hygiene. In 1915 he attended the New York State Conference of Charities and spoke on "The Duty of the State Toward the Feeble-Minded"; in Iowa in 1919 he gave his "Outline of a State Program for the Care of the Mentally Defective"; in Wisconsin in 1920, "The Next Step in the Care of the Feeble-Minded"; in Indiana in 1921, at a Mental Health Conference, "Our Modern Conception of Feeble-Mindedness," and, in the same year, in Connecticut, the "State Program for the Care of the Mentally Defective."

It is impossible to give a complete record of the many occasions when he spoke, often extemporaneously, to local organizations throughout the state for the purpose of imparting knowledge and "creating public sentiment," because of his firm belief that in an adequate plan "the care of the feeble-minded will be largely decentralized and the initiative and responsibility largely shared by the local community, under highly special direction." The organizations to which he talked included, medical societies, men's clubs, women's clubs (local and state, religious and secular), mental hygiene and public health conferences, parent-teacher and social-welfare associations. His message was convincing — its influence cannot be measured.

He was often called upon to speak to similar organizations outside of the State. During the early days of special class provision he went to Pennsylvania to help with a local problem in Philadelphia, where a conference was called by the Public Education Association "to consider a more adequate system of caring for the backward children in our public schools." This was in 1906. The paper prepared by him was entitled: "The Importance of the Early Discovery and Training of Defectives in Special Public School Classes." (Copies of this paper have been widely distributed.) It was characteristic of Fernald that on the morning following, he was willing to attend a conference of district superintendents of schools, teachers, and public spirited citizens for the purpose of discussing the local problem in detail. One of the by-products of the conference was the appointment of an after-care committee. In 1923, he again went to Philadelphia to the "All-Philadelphia Conference on Social Work," to speak on the question, "What Shall We Do with the Feeble-Minded?"

Dr. Helen MacMurchy, now Chief of Division of Child Welfare in Canada, writes of Fernald's "advice, knowledge, and experience," as having been "invaluable" to her in her work as Inspector of Auxiliary Classes in Ontario, from 1914 to 1920. Her successor, S. B. Sinclair, tells of the present indirect influence of Fernald through Jennie C. Louden (formerly a member of the staff at Waverley) and since 1919 one of the faculty at the "Summer Training School for Teachers," in Toronto: "Through her able and enthusiastic assistance, our teachers have had an opportunity to gain a knowledge of the Seguin material and methods, and of the many commendable features of Dr. Fernald's work. A successful special class teacher in Ottawa says, "Any success we may have had in our work here is due to the splendid training which I received under Dr. Fernald's personal supervision, during the two months which I spent in his wonderful institution." It is also recorded that the first special class organized in Halifax, Nova Scotia, in 1916, was taught by a teacher who had been similarly trained at Waverley.

The publication of many of his papers in educational, medical, mental hygiene, and social welfare journals and also in pamphlet form, widened the scope of his influence. In his annual reports to the trustees of the School, beginning as early as 1895, he makes frequent allusions to special classes.

The points which Fernald enumerated, in 1923, present in concise form the logical steps which he believed should be taken for the adequate care of the individual defective:

> We must recognize his condition while he is a child.
> Protect him from evil influences.
> Train and educate him according to his capacity.
> Make him industrially efficient.
> Teach him to acquire correct habits of living.
> When he has reached adult life, continue to give him the friendly help and guidance he needs.

In his unceasing personal efforts to help in carrying out this program he exemplified in a way rarely seen the words of the Master, "He that is greatest among you shall be your servant."

COMMUNITY CARE OF FEEBLE-MINDED

By C. Stanley Raymond, M.D.,
*Assistant to Commissioner of Mental Diseases**

Dr. Walter E. Fernald's idea concerning community care underwent many changes during the twenty years which the writer was privileged to know him. The last paragraph in a pamphlet entitled "Feeble-mindedness," published by the National Committee for Mental Hygiene in 1924, describes a hopeful program for community care. This is his last published writing and the paragraph mentioned is copied to show how he was keeping up his custom of looking forward far into the future.

A Hopeful Program

"We are beginning to realize the vastness of the problem of feeble-mindedness. There are probably 60,000 mentally defective persons in Massachusetts alone. We now know that all feeble-minded persons cannot be permanently segregated in institutions. We believe that the vast majority will never need such provision, but will adjust themselves at home as they have always done in the past. They will be recognized during their school life by school and travelling clinics and will be given better training in special classes or in the regular classes. Much of the present scholastic training will be supplanted by industrial training. The schools are providing special social supervision and will do so much more in the future. The bad defective individuals and the neglected ones will be sent to institutions before they come to grief. After the school age, the State will provide extra-mural supervision for all neglected or badly behaved defectives. The price of liberty will be good behavior. Those who can live at home safely and usefully will be allowed to do so. Well-behaved institution patients will be released on permanent supervised parole. It will be a highly selective process."

How different is this viewpoint from that of 1904 when, addressing the National Conference of Charities and Correction, Dr. Fernald said in part, "A feeble-minded child is a foreign body in a family or a modern American community. It is a public duty to relieve these families of their unbearable burdens. It has been well said that under any conditions these defectives must always be supported by the public. It may be through the charity of neighbors and friends; it may be through the township overseer of the poor, or in the town poorhouse, or in the jail or reformatory, but the public always pays the bills. A very large proportion of feeble-minded persons, even the well-trained, high-grade cases, eventually become public charges in one way or another. No one familiar with the mental and physical limitations of this class believes that any plan of education can ever materially modify the fact. Feeble-minded children may be tolerated, but it is a great responsibility to inaugurate any plan on a large scale which does not withdraw the defective adult from the community. It does not seem probable that American public opinion will be satisfied with any substitute for some form of permament segregation of the great majority of this demoralizing class under government supervision and at State expense."

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* **Former Assistant Superintendent, Walter E. Fernald State School.**

The above was written soon after the wide publicity that was given to the research concerning the "Jukes" and other well-known defective families and the pessimism was well grounded because about all the information available at the time was obtained from study of institutional cases and the hovel type of defective was very properly commanding a great deal of attention. In other words, the great bulk of information was from a study of those who had already made failures in social, moral, or economic adjustments and were needing institutional care.

The pessimism toward community care which was so marked in 1904 became more so a few years later when researches by Davenport, Estabrook, Goddard and others disclosed the appalling stories of the Nam Family, Hill Folk, Kallikaks, Ishmaelites, etc. It was right at the peak of this pessimism that Dr. Fernald began to get glimmers of something less gloomy in the possibilities of extra-mural supervision of paroled and discharged patients. In his annual report of 1912 he speaks of the increasing number of patients who were being taken out of the School by their parents against advice and who were reporting informally to the School authorities at regular intervals. He still held that permanent segregation was more desirable but recognized the fact that in many instances it was impractical and that the next best thing was some type of extra-mural supervision. In this report he said in part:

"The friends of the older patients who have become strong, able-bodied workers, and have settled down to steady, good conduct under institution conditions naturally believe that these patients ought to go home and work for wages for the benefit of their families. It must be said that many of these older boys who have been trained here have done surprisingly well at work at home. In certain cases where the trustees are unwilling to discharge the patient but have no power to compel custody,

HARVESTING CARROTS
Templeton Colony

he is allowed to go home on trial, reporting in person to the officers of the School at regular intervals. This plan provides more or less supervision over the patient and favorably modifies his behavior and conduct. We believe this informal after-care should be developed and put on a permanent basis. A trained field worker could very profitably spend his entire time looking after these patients on parole, discharged patients in their homes, and in research work relating to the cause and antecedents of individual cases of feeble-mindedness." All this was, of course, previous to the enactment of parole laws and previous to social service as applied to the problem of the feeble-minded.

Thus, after about twenty-five years' experience as superintendent at Waverley, Dr. Fernald became deeply impressed by the ever-increasing number of reports of successful adjustment to community life being made by former pupils of the School. A large number of these were well behaved, industrious defectives from good homes who had been allowed to go out on visit with their relatives and had been discharged after a year at home. Some who had been taken out against advice were reported as doing well and even some of the males who took matters into their own hands and ran away were coming back after a number of years well dressed, with money in the bank, holding fairly good jobs and apparently behaving themselves. A steady accumulation of evidence of this kind led Dr. Fernald to inaugurate in 1916 "After-Care Study of the Patients Discharged from Waverley for a Period of Twenty-Five Years." This study attracted a great deal of attention and exerted a widespread influence in changing public opinion concerning the safety to the community in the return of selected cases of institutional trained mental defectives. There were 646 patients whose history in the community could be obtained and the relatively small number of discharges showed that the policy of long continued segregation was consistently followed during this twenty-five-year period. Dr. Fernald said in part, "We honestly believed that nearly all of these people should remain in the institution indefinitely. Some were allowed to go because they seemed to have no vicious tendencies, and their friends were intelligent and able to look after them, but the majority were dismissed under protest." A great many did poorly, of course, and the majority who got into serious difficulties were those who were taken out by order of the Supreme Court after habeas corpus proceedings, or after other vigorous protests had failed to convince the relatives and friends that the children needed the protection and training of the institution.

The following tables taken from this study showed an amazing number of both male and female patients who had managed to get along without getting into serious difficulty for periods ranging from two to twenty-three years.

To sum up, for 176 discharged female patients, we have the following report: —

Married (11 doing well)	27
Self-supporting and self-controlling, unmarried	8
Working at home under supervision	32
Living at home, not able to do much work	23
Committed to other institutions	29
Died	24
Readmitted to Waverley	33
Total	176

To sum up, for 470 discharged male patients we have the following report: —

Earning a living without supervision	28
Working for wages, supervised at home	86
Working at home, no wages	77
Living at home, not able to work	59
Arrested, but not sentenced	23
Sentenced to penal institutions	32
Committed to other institutions	43
Readmitted to Waverley	68
Died	54
Total	470

These tables indicated that over one-half of all discharged patients, whose history was obtainable, were not constituting any serious menace to the community at the time of the investigation.

At the close of this study Dr. Fernald said: "The results of this survey should be interpreted with great caution. As a rule, the most promising cases are allowed to go home. They have received careful training. The parents have been properly instructed. Still many unpromising cases did well. There was a surprisingly small amount of criminality and sex offence, and especially of illegitimacy. We may hope for a much better record when we have extra-institutional visitation and supervision of all discharged cases. Those with definite character defects, especially those with bad homes, should be discharged with great caution. The survey shows that there are bad defectives and good defectives. It also shows that even some apparently bad do 'settle down'. And it shows much justice in the plea of the well-behaved adult defective to be given a 'trial outside,' for apparently a few defectives do not need or deserve lifelong segregation. It is most important that the limited facilities for segregation should be used for the many who can be protected in no other way."

Another great factor in changing his attitude toward community care was the out-patient clinic which he conducted at the School every Thursday and which gave him an opportunity to see defective children from good homes as well as bad, some well adjusted, others poorly, some well disposed and others more or less serious behavior problems. During the last ten years of his life this clinic became a highly organized, very busy service, used not only by societies and individuals in Massachusetts but also provided much-sought advice to parents from many other States and from foreign countries. These contacts provided him with information concerning the non-institutional types of defectives previously unavailable and convinced him that in many instances custodial care was neither necessary nor desirable. Many of the children who were brought to him were being protected and supervised in excellent homes and were presenting no serious social, moral, or economic problem either in the home or in the community. Many living on farms or in rural communities were harmless and moderately useful and were brought to the clinic simply for advice as to their future management. Dr. Fernald's advice to the friends of these children was not immediate and permanent commitment to an institution in all cases. After describing in detail the possibilities and limitations in training along both scholastic and industrial lines, he emphasized the susceptibility to temptation, especially of a sexual nature, from unscrupulous people and then told them that if the protection and wise management that was evident thus far could be continued there was no reason why they should not remain at home.

Long before this, he had recognized the vast difference between the rural and urban problems as related to the feeble-minded. He knew that many who were leading happy, harmless, and fairly useful lives in the simplicity of a rural setting would become liabilities socially, morally and economically when exposed to the complexities of city life. With this in mind he frequently advised well-to-do city people to search for a country home for the imbecile or moron boy who was becoming a misfit and who was beginning to feel his inferiority in the face of situations which he could not understand. The farm provided simple chores which he could do well, which gave him an outlet for his energies, made him happy and contented, and with understanding people who praised his successes and minimized his failures, he led a placid, harmless and fairly useful existence. Before the days of large institutions, hundreds of New England farms had boys of this type who, trained and protected during adolescence, became valuable farm laborers, performing many tasks which it was difficult to get the ordinary farm hand to do. In fact Dr. Fernald sometimes explained, partly in jest, that putting so many of these boys in institutions was one of the main reasons why many New England farms failed to prosper.

The next and last great factor in changing his attitude toward community care from that expressed in 1904 to that stated in 1924, was the compulsory examination of children of school age who were three or more years retarded in school work. When the results of these examinations began to come in from many cities and towns it became necessary to revise the estimates many times as to the number of feeble-minded in the State. From an early estimate of one or two per 1,000 the ratio steadily increased until it became known that from two to three per 100 of all children of school age were sufficiently retarded to be called feeble-minded. This made it obvious that the cost of giving all of these children custodial care would be prohibitive and the family, social and moral histories in most of the examinations showed that commitment to an institution was neither necessary nor desirable.

Estimates concerning heredity as a direct cause of mental defect were revised downward from 90 per cent to about 50 per cent as a result of study of thousands of non-institutional defectives in the public school clinics and in the out-patient clinics.

These vast changes in the aspect of the problem as a whole made it necessary to formulate plans for the assimilation in the community of about 90 per cent of the known mental defectives while at the same time protecting society as much as possible from the badly behaved defectives, and those from known poor germ plasm stock.

Dr. Fernald organized a social service department at Waverley in 1919, the same year the "School Clinic Law" was enacted, and this department undertook among other duties the supervision of patients on parole or on visit and gave advice to many who had been discharged. He regarded the development of social service both within and without the institution as one of the most important parts of any State-wide plan for community care of mental defectives. The "Parole Law" of 1922 made it possible to remove certain selected cases from the schools under a system of permanent supervised control with the provision that they might be returned at any time to the School to which they were committed. Dr. Fernald was responsible for much of the legislation having to do with the feeble-minded and this was made possible by the publicity given to the lectures which he gave so generously to civil, social and professional organizations. He once said, "Widespread knowledge creates public sentiment, and public sentiment is usually quickly reflected in direct legislation."

In a paper entitled "The Salvage of the Backward Child," published in 1923, Dr. Fernald described the provisions under way in Massachusetts at that time and also expressed, in his usual far-sighted way, his hopes for the future. He said in part: "In this State we have now provided for: —

The mental examination of backward children in school.
The mental clinic.
The travelling clinic.
Census and registration of the feeble-minded.
The special class.
Instruction of parents of defective children.
After-care of special class pupils.
Special training of teachers in normal schools.
Extra-institutional supervision of all uncared-for defectives in the community.
Selection of the defectives who most need segregation or institutional care.
Increased institutional facilities.
Parole for suitable institutionally trained defectives.
Permanent segregation for those who need segregation, especially long-continued segregation of defective delinquents in penal institutions.

"The Massachusetts program proposes to recognize the defective's condition while he is a child, and protect him from evil influences, train and educate him according to his capacity; to make him industrially efficient; to teach him to acquire correct habits of living, and when he has reached adult life, to continue to give him the friendly help and guidance he needs. If conditions are right he may live at home and receive his training in the rural school or in the special class. If he is actually a social menace, he will need the institution. These advantages should be accessible to every feeble-minded person in the State, and not to a few favored persons. The rights of the feeble-minded person and of his family should be jealously guarded, as well as the rights of society. It is most important that the really hereditary defectives should not be allowed to transmit their defect to future generations."

Much of the above has come to pass as Dr. Fernald laid it out but it will require many years of work before this comprehensive institution and community program for the care of the feeble-minded approaches the ideal which he visualized.

FERNALD, FRIEND OF THE CHILD

By Herbert C. Parsons,
Commissioner for Probation

Childhood in Massachusetts gained new ground in public interest and provision because of Walter E. Fernald.

It gained in terms of joy, of freedom, of relief from handicaps, and escape from misjudged, because misunderstanding, treatment. The measure of his contribution to childhood is not fully taken in the survey of the field in which he pioneered in behalf of the mentally disadvantaged. It must reckon, so far as reckoning is possible of changes that are not wholly visible, however real, in the methods and the spirit of education and of correction.

When the trustees of the Massachusetts School for the Feeble-minded, an institution then located in South Boston, announced in their report for the year eighteen eighty-seven the choice of a superintendent, they displayed their confidence in the selection in this fashion: —

> "After serious and prolonged search, the trustees have elected Walter E. Fernald, M.D., the first resident superintendent of the school. They need say no more about him than that his professional and personal qualifications appear to promise success in his responsible and delicate labors."

These were safely restrained words but they do not conceal a confidence beyond the seeming and the appearing. The substantial group of citizens who made up the board, in which rested the whole sum of responsibility for the public care of the feeble-minded, betrayed in cautious terms the assurance they felt that they had secured more than a skilled physician and more than a competent institutional manager. They said, with fitting dignity, we have secured a man, — a man with that quality of sympathetic understanding which all their prior utterances had shown was to them the prerequisite of success in dealing with the class whose need was newly sensed. So saying, they were prophetic. They were speaking for the one hundred and ninety-three pupils of the school in that year; they were speaking for the vastly larger group they knew awaited like provision; they were speaking for childhood in every phase of special public concern.

Dr. Fernald's early years in Massachusetts were quite too intensely devoted to the interests of the school to give room for another thought. His first report was as brief as it was formal.

His second recorded the provision for buildings on the newly purchased land in Waltham. Presently there came the plea for manual training. In successive reports may be traced the widening of his vision and the deepening of his philosophy, until even these always succinct messages begin to reveal an interest in the child other than the one whose mental disadvantage commanded society's specialized attention.

In the many addresses which in the course of all his years found their way to print, there is a confinement to the problems within his distinct field that leaves slight evidence of Fernald's broader concern in childhood. It would be an incomplete review of his service, a partial picture of his leadership, that failed to record his association with educators, with reformers in the dealing with delinquency, with the pioneers in the new science of social service. Here the evidence will be scantily documented but abundantly supplied out of the recollections of the men and women with whom he came into fruitful comradeship.

The sum of such testimony as his contemporaries would abundantly yield would give him the rating of a statesman in his day and generation. Statesmen are necessarily more than specialists — and even the high specialization of his interest left ample margin for the other contributions to statecraft which establish Fernald's right to the designation. As he went about the State, traversed its length and breadth, reaching the people in large assemblies and in small, in public hall and church, in the country schoolhouse and in the home where neighbors gathered, the apostle of care for the long neglected defective, he first of all prepared the common mind of the Commonwealth for the ready support of whatever legislative project would put policy into practice and effect as to these objects of concern and care; and, as incident to such particular advance, he stirred the thought and the heart of the people in behalf of every other child with a claim to community attention. The by-product proclaimed the joint working of a broad understanding and a capacious heart.

School men came to sit at his feet. He had a definite need to press upon them but, as well, he had a word for them as to their own methods. The instruction of the feeble-minded was pioneering in methods of instruction which had no such limitation. It was the first occupant of the new territory of habit-training. It sent back to the common schools the demand for adaptation. It contributed to the abandonment of the lock-step in grade work. At Fernald's hands, in the main, as was befitting his definite errand, it charged the schools to take up their duty to the retarded.

The fashion in which he challenged school people is revealed in an address given at a meeting of the Harvard Teachers' Association in nineteen hundred and twenty-three. It depicted the change of view, in which he frankly shared, as to the feeble-minded, and it put a definite responsibility upon the public schools. Thus spoke he: —

> "Until a few years ago, the literature of mental defect emphasized three main concepts. The first was that nearly all feeble-mindedness was highly hereditary. The second was that the feeble-minded were almost invariably vicious and immoral, if not criminal. The third was that they were generally paupers and vagabonds and were not capable of supporting themselves by their own labor and that they must be supported at the public expense.
>
> "But within a few years many things have happened to make us believe that we have been far too sweeping in our generalizations and deductions.
>
> . . . "The work of salvage must be done in the public schools. It can be done in no other place."

Then he pursued the subject — and the educators — with definite and insistent demands, declaring that the school grades were capable of adjustment on the basis of mental age, and that "there is no special pedagogy for the feeble-minded." The conditions are different, progress is slower, much graphic school material must be used — and the essential in dealing with the handicapped was reached in his command, "Let him achieve success every day." Under cover of his special plea, Fernald was — perhaps unconsciously — teaching the teachers fundamentally and universally.

By the open path from the regions of the care and training and practical social salvage of the feeble-minded to the domain of treatment of the juvenile offender, Dr. Fernald came easily to recognition in the field of law and practice as to the young delinquent. He was companion of the pioneers in a distinct judicial process and outfit for the child breaker of laws framed, in the main, for the fully responsible adult. He consorted with Harvey Baker, first judge of the Boston juvenile court, and others of the crew who in nineteen hundred and six wrote a fostering and saving code for children and created the one court set apart for its operation. The companionship was not deferential to him as a helpful specialist; it was wholehearted appropriation of him as a guide to wisdom in child treatment.

Moreover and practically at the same time, the forward-moving men and women who were trying to modify the rigors of the punitive scheme of dealing with adult law-breakers found him their ally. Here again there was no draft upon him for professional contribution, helpful in a restricted degree to their development of new instruments, but actual assignment of leadership. When, in 1910 the Massachusetts legislature was stirred, as somewhat in cycles legislatures are stirred, by an increase, actual or alleged, in the volume of crime, and took the traditional course of establishing a commission to discover the facts and disclose remedies, the Governor placed Dr. Fernald's name first in the group along with the warden of the State prison, the superintendent of the State farm and two other institutional heads.

Among the contributions to knowledge of crime conditions and treatment, the report of the Commission made to the Legislature of nineteen hundred and eleven* is recognized as permanent. It proved to be immediately effective and innovating. Its outstanding product was the recognition of the defective delinquent as a special character and the provision of a separated process for his treatment. The legislative act it proposed as to the defective delinquent was the initial point in what in a few years, after a queer interval of suspended animation, was to be a most significant departure in corrections.

The pages of the report of the Commission of nineteen hundred and eleven which are devoted to juvenile crime are compendious of the whole gospel as to youthful delinquency, not alone for that time but for all time, at least so far as the subsequent twenty years have revealed. "The crime problem is the boy problem and the girl problem. . . . Transition from occasional crime to habitual crime usually occurs during adolescence. . . . Districts thickly populated. . . . Bad housing produces weak and inefficient people not equipped to fight successfully the battle of life. . . . One or both parents defective mentally — not up to the standard in health and strength. . . . Children of newly arrived immigrants, under new conditions of living. . . . Nothing more disastrous than the loss of parental care in early life. . . . Few opportunities for play. . . . Forced into crowded streets of the slums. . . . Truancy, followed by stealing. . . . Bad heredity, bad environment, creating a class not able to resist temptation."

Random chipping from the report's survey of conditions proves it the high-grade ore from the mines of keen prospectors. Further on, the material is smelted into the purest metal of a program to which the next two decades have added nothing and have done their most and best in putting into use. It was not a State prison warden, facing the crime problem, nor the superintendent of a hospital for the insane, facing mental disorder, who was going into the depths of the earth, socially speaking, and bringing truth to the surface and directing its use to practical and adorning ends. It was unmistakably the man who had broadened from the task of caring for feeble-minded children to leadership in the field of juvenile social economics.

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* Legislative Documents of 1911, Report of the Commission to Investigate the Increase of Criminals, etc.

Eight years later than this revealing incident in Dr. Fernald's service to the cause of childhood, the General Court found occasion to create another commission. Now it was the problem, as indicated in the title, of the Control, Custody and Treatment of Defective Criminals and Misdemeanants. The legislative resolve named various public officials as its members, four of the six being executive heads of state departments. Dr. Fernald's standing in the field, only a sector of which was within his official control, was certified by his designation as chairman.

No one contribution to the discussion of the persistent problem of treatment of the supremely troublesome groups named in this inquiry has matched in value the report of nineteen hundred and nineteen. It was phrased by a master in expression on social themes, Robert W. Kelso, Esq., the commission's secretary; but the scope and the method of the inquiry and the conclusions reached were the constant concern of Fernald. Within the report along with a searching study of corrections in general, there stands out the keen and broad-visioned dealing with juvenile problems. Again it is the champion of childhood whose philosophy illuminates a public document.

The institutional treatment of juvenile offenders, the county schools for school offenders, the defective delinquents — thus far in hibernation under a cold blanket of legislative neglect — the feeble-minded, along with adult criminals, has the commission's attention, with the child standing out as the central and the hopeful figure. No pages of its report* are more luminous than the one devoted to the insufficiency of the juvenile court system. For the fulfillment of the declared purpose of the juvenile delinquency law, now thirteen years on the statute books, it declared for the provision of juvenile judges, either in each court or in groups of courts, in order to "secure a high standard in the treatment of these cases, which, more than any others, demand a thorough and skillful, as well as sympathetic, handling by the courts." Six of its eight recommendations for legislation relate distinctly or inclusively to the interests of children, and subsequent enactments of progressive character have followed the suggestions which were not less than long steps towards a perfected system.

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* Legislative Documents of 1919, House 1403.

The testimony of such documents as the reports of the commissions of nineteen hundred and eleven and nineteen hundred and nineteen is but a fraction of the support for the recognition of Fernald as the champion of childhood. In the richness of his later years, when the spirit was all the while expanding, when a judgment as practical as it was broad was ripening, when contribution of a deep understanding and a profound sympathy was adding to achievement, to the end of his luminous life, Dr. Fernald made secure his title to lasting recognition as the friend and attorney of child life, the community's chiefest treasure, hope and responsibility.

RESEARCHES IN FEEBLE-MINDEDNESS WITH SPECIAL RELATIONSHIP TO INHERITANCE

By Abraham Myerson, M.D., *Professor of Neurology, Tufts College Medical School. With the collaboration of* Henry B. Elkind, M.D., *Director of the Massachusetts Society for Mental Hygiene;* Louis Ullian, M.D., *Assistant Visiting Physician, Boston City Hospital, and* Hannah Smith, *Field Worker.*

HEADING FOR THE MONOGRAPH

"That the conditions of the natural environment of man must be modified if the body is to survive has long been recognized; but the fact that the mind is incomparably more delicate than the body has scarcely been noticed at all. We assume that the disorderly environment with which we surround the mind has no effect, and are ingenuously surprised when mental instability arises apparently from nowhere. But though we know nothing of its origin, our temerity in applying the cure is in no sense daunted." — *W. Trotter.*

ACKNOWLEDGMENTS

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To the lamented Dr. Walter E. Fernald, we owe more than can be expressed. In the first place, he turned over his records and his patients for our study. In the second place, we obtained through him the co-operation of his staff, to whom, individually and collectively, we owe our thanks; and, in the third place and most important of all, he gave us the benefit of his experience and his wisdom at all stages of the research.

Likewise, we are under a burden of obligation to Dr. George E. Wallace, head of the State School at Wrentham, for his complete and hearty co-operation in the analysis which was made of the statistics of his patients.

In fact, it may be stated that everybody connected with the Department of Mental Diseases and the officers and workers of the Walter E. Fernald and Wrentham State Schools lent their energies and an amiable spirit of co-operation to the research. If, in any way, our efforts have contributed to the study of feeble-mindedness, theirs is a very large share of the credit.

CHAPTER I

NATURE OF FEEBLE-MINDEDNESS

The main difficulty with any definition of feeble-mindedness is the difficulty of which Bacon speaks; that a word used with common or vulgar meanings has been accepted by the scientific-minded and thus diverse sets of meanings are combined in one word. A medical term should be fundamentally biological in origin and in significance, but unfortunately the maladjustments which are denoted in the term are largely communal and social, so that no biologic definition can be definitely made. Furthermore, in the department of knowledge called psychology the prime essential of scientific method, namely measurement, is only in a limited way present. Though we have in some degree approached exactness, scientific measurement in the field of the human mind is more of a promise than a fulfillment.

The term feeble-mindedness might readily denote that there was a defect in all the qualities of the mentality. Since mind in its largest aspects embraces those affective qualities called feeling and emotion, that mixture of affective and effective reactions called instinct, the conglomeration of reflex and purposive strivings of the organism which we may sum up under the old-fashioned term "will," as well as the sum total of cognitive stores and responses which we call intelligence, the term feeble-mindedness might mean feeble emotionality, feeble instinct, feeble will, and feeble intelligence, as well as "feeble" conduct. But, no matter how much out of control a man's emotions may be, how prone to anger, fear and disgust, we do not consider him nor think of him as feeble-minded so long, let us say, as he is able to remember and reason well and so long as he is able to pass certain types of tests in which emotion is not at all involved. Nor will any psychiatrist or psychologist dream of calling a person feeble-minded whose defect is that his purposes are so scattered that he follows no consecutive trend in his activities, who fails in life as utterly as if he were stupid, because he cannot discharge his energies coherently and intensively.* In other words, no feebleness of will, *per se*, constitutes feeble-mindedness. And similarly with the instinctive reactions; no sexual pathology — whether perverse, autoerotic, hypererotic or anesthetic — is denoted by any clinician as feeble-mindedness, no matter how grounded it is in congenital defect. So that we are left with a definition by elimination, viz. — that the essential set of congenital or constitutional defects by which the term feeble-mindedness is to be defined lies in a special group of attributes which are summed up under the term intelligence.

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* It is curious to note, however, that Davenport[5] and Pearson[12], whose respective schools of biometric approach to eugenics have rarely been in over-polite agreement, have as a sort of statistical despair over the problems of feeble-mindedness, come to the conclusion that mental defectiveness includes defects of character and conduct as well as intelligence defect. Such a stretching of the concept would defeat all efforts to study feeble-mindedness.

But the term intelligence, like every abstract term, every general term, can best be understood when we refer it back to the particulars out of which it has grown. "Intelligence" does not exist as such; it is of the same class as love, honor, duty, i.e., an abstract concept built up of the concrete particulars of experience. People are intelligent when they can remember and learn well; when they can judge well; when they can learn by direct or indirect experience. As we survey the biological evolution of mentality we find that intelligence is a rather late arrival on the scheme of things, and we may correlate it with the appearance of the cortex in the evolution of the brain.

In the face of a wider and less predictable environment intelligence acts, first, to store up past experience so that it may govern conduct. Thus memory becomes its prime ingredient and the learning process its main avenue of expression. Foreseeing the future in a conscious way, planning capacity and choice of means of action become essential, and thus are phases of intelligence. The diversity of things is too difficult to deal with successfully, hence intelligence must analyze, unify and organize experience in order to simplify reactions. Thus there is an analyzing-organizing factor in intelligence, the energy of which runs parallel with the range of intelligence, and therefore is almost lacking in the lower grades of people and becomes increasingly more manifest as we reach the highest grades of human beings. In other words, intelligence seeks to accomplish the instinctive ends by other than the instinctive methods, seeks to overcome obstacles which instinct alone cannot overcome, and uses against a more complicated world a wider range of techniques. That all this later develops into something not so simple — into something which contemplates itself, which becomes an *end* instead of merely a *means* is a phase of the evolution of intelligence which I need not discuss here, *since in the case of the feeble-minded this angle of intelligence does not become important.

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* In the stimulating work, "The Philosophy of 'As If,' " Vaihinger [16] says:

"For thought originally only serves the Will to Life as a means to an end, and in this direction also it fulfills its function. But when thought has broken loose from its original aim, according to the Law of the Preponderance of the Means over the End, and has become an end in itself, it sets itself problems to which it is not equal because it has not developed for this purpose; and finally the emancipated thought sets itself problems which in themselves are senseless: for instance, questions as to the origin of the world, the formation of what we call matter, the beginning of motion, the meaning of the world and the purpose of life. If thought is regarded as a biological function, it is obvious that these are impossible problems for thought to solve, and quite beyond the natural boundaries which limit thought as such."

Referring back to the particular defects by which we diagnose feeble-mindedness, we find certain outstanding anomalies in mental development. It has not often enough been emphasized that there is an extraordinary significance in the parallel appearance of walking and talking. By walking the child passes from the sessile stage, where his experiences are limited, to a stage where he becomes the creature of an enlarged environment with a capacity for picking up many new experiences and by which he is forced into more adaptations. That walking occurs ordinarily by the end of the first and more frequently in the first half of the second year of life is well known. That the bulk of the feeble-minded learn to walk later than the normal is an expression of backwardness either in the development of the nervous tracts by which balancing and coördination are brought about, or else *it is an expression of a lack of interest in the environment*, in a word, that the spur to walk does not arise at the ordinary time. The alert child sees in the environment things which interest and excite him, and, therefore, he walks, when the neuro-muscular mechanism is ready. But the feeble-minded child, one of whose definite defects is a *lack of organized interest* (or better, an incapacity to organize interest) in the environment, may have the nervous tracts developed but, lacking the immediate spur, is delayed in his walking. In a general way the more seriously involved the mentality, the greater the delay in walking.

Similarly with talking. The first few words come at an early age, perhaps at one year or somewhat later, in some instances earlier. Talking, however, as an organized means of communication becomes of importance at about the age of two. Talking is an expression, first, of attention to the social environment, since it largely springs from what we call imitation, * but back of that imitation are active desires, one of which is to be in contact with the social environment. It is a marvelous accomplishment when the innately meaningless sounds by which we speak become charged with significance to the infant, when somehow or other gradations of meaning become linked up with definite but arbitrary conglomerations of consonants and vowels.

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* Imitation is as much a manifestation of social feeling as it is of intelligence, or perhaps more nearly correctly, of interest. The imitative child seeks not only the new experience, the new and comprehensible experience, but also to enter into fellowship with the one it imitates. This is important in understanding the mental growth of children, because the parent whose life and acts win the interest of his child becomes not only a model but also a fellow, for whose fellowship the child yearns. The sympathetic and understanding parent, who encourages the social-fellowship feeling of his child, becomes a factor in the development of his child's interests, and thus becomes a spur to his child's intelligence. Thus environment, in the shape of the parent, becomes a factor in the growth of intelligence. I realize fully how unorthodox this will seem to those psychologists who tend to minimize the environmental factor in intelligence.

Therefore, there must be not only the coördinated capacity of tongue, lips, larynx, chest muscles, — in short the mechanism of word production — *but there must be also a capacity to associate meaningless sounds with objects, a capacity to become aware of meaning.* In the case of the feeble-minded there is almost always delay in this capacity to speak. The low-grade feeble-minded may not learn to speak at all; the imbecile may be delayed until the fourth or fifth year; a moron of the high-grade type may scarcely be delayed at all. While it is true that some intelligent children, due to some special defect of auditory memory, or to a lack of the desire to communicate, may be delayed in speaking, any serious delay in the acquirement of this function is strongly suggestive of feeble-mindedness. That part of the delay is due to a lack not only of the capacity to associate meaning with syllables of speech, but also to a lack of interest in the environment is a conclusion difficult to prove, but is borne out by the other considerations later to be dealt with. Thus the two great means of getting experience, walking and talking, are tardily, often defectively, developed in the case of the feeble-minded, and the means by which experience is gained and stored up in concrete form in the coins of memory, words, is especially defectively developed.

The grossly feeble-minded are soon discovered by these two crude but effective tests of mental development. Another test, which is more nicely social in its significance, is the ability to control bladder and bowels in response to the esthetic demands of the society into which the new individual comes. It is obvious that the hypothetical primitive man would lay no special stress upon cleanliness in the education of his child, and it is just as obvious that there is an early demand upon the child born into civilization that he exercise control over the expulsion of the excreta. *The average child learns control of bladder and bowel about the same time that he learns to walk and talk.* The low-grade feeble-minded may never learn; the higher grade usually learn tardily. While it is true that a non-feeble-minded child may lack control of the bladder sphincter, as in the well-known condition of enuresis, it may be stated that a failure of control of bladder and bowel always brings up the question of feeble-mindedness. This social maladaptation, in some types of the feeble-minded, is due to organic defect of the nervous system or of the sphincteric muscle but in the most of cases it is due to a failure to understand the attitude of the people one comes in contact with. It is a failure to enter into the social scheme of cleanliness; it is a failure to control a bodily urge in response to a social urge.

In a primitive society where there were no schools and where the child passed from his earliest activities of play into hunting, fishing, etc., a very large number of those whom we class today as feeble-minded would avoid detection, because the demand made by successful hunting and fishing is not beyond the higher moron type.* *The school becomes the great detector of the mentally deficient.* Though the feeble-mindedness of the child may have escaped the notice of his parents, it rarely fails to become evident early in the school history. In the case of the grossly feeble-minded school-learning capacity — that is, the capacity to remember the arbitrary symbols connected with written speech and with numbers — is so low, that all advancement rapidly ceases. To associate a symbol, *e.g.*, "A," with a sound, to place in juxtaposition a certain number of such symbols to mean the animal, cat, is no small achievement and the grossly feeble-minded child either is incapable of that achievement, or takes so long to bring it about that his advancement in regular schools is impossible. More difficult is the handling of the arbitrary symbols for quantity, so that it is the field of mathematics which forms the greatest single obstacle to the advancement even of the high-grade feeble-minded, for the capacity to be interested in abstractions and the capacity to deal with them is a high-grade function of the intelligence and one which forms a real test of the higher qualities of the learning capacity.† Either because the child is not interested, or because his mental organizing powers are low, concentration is difficult and thus a vicious circle is established which results in school failure of a gross kind. Therefore, it may definitely be stated that any child who gets through the grammar grades fairly on its own merits is not feeble-minded and that rarely does a technically feeble-minded person get beyond the sixth grade. Without going into the details of the defects of the learning capacity, it is quite certain that the school-tests readily grade the degree of feeble-mindedness above the idiot and low-grade imbecile level, since these rarely reach the schools at all. What we call the higher imbecile seldom gets beyond the third grade; what we call the high-grade moron rarely advances beyond the sixth grade on his own scholarly merits.[*]

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* NOTE: In the "Development of Intelligence in Children," by Binet[2] it is stated: "A peasant normal in ordinary surroundings of the field may be considered a moron in the city. In a word, retardation is a term relative to a number of circumstances which must be taken into account in order to judge each particular case."

† Bleuler[3] very aptly calls this *the adhesion to the concrete* of the oligophrenic (Kraepelin's term for the feeble-minded).

Personal tests: In examining prisoners in the jails, and individuals of various intellect levels, one of the outstanding differences between the low- and high-grade individuals is the graded range of interest and the graded ability to deal with the abstract. Social and communal interests run roughly parellel to the range of intelligence, and real interests run roughly parallel to the range of intelligence. Real interest in abstractions appears only with the better intelligences. Of course, there are high-grade individuals who have very narrow and egoistic interests. These are exceptional, whereas the low-grade individual who has widespread social and communal interests is unknown.

At once it becomes evident that a large part of the problem is a social one; that at any rate society builds up the criteria by which the feeble-minded are distinguished. That there are biological defects which are distinguished by the social criteria is, of course, true; but with the advance of social demands, with the increasing qualifications which society demands of its citizens, the amount of feeble-mindedness increases. An individual living in a simple community where after little or no schooling he passes onto the land as a farmer, or (for the girl) into the home as a wife, or takes up some relatively simple occupation might pass as somewhat inferior but without any definite stigma as feeble-minded. But where society demands that before an individual goes into a gainful occupation he reach the age of fourteen or sixteen and that that relatively long period be passed in the acquirement of knowledge involving abstractions, involving interest in things of no apparent value to the individual himself, then those individuals who, for one psychological reason or another, cannot remember these abstractions, cannot form these arbitrary associations, become a problem and therefore noteworthy. Where the incapacity to learn what the school teaches brings with it either success or failure in life, the defect, in a society now become keenly conscious of its obligations to its members, brings the defective individual into sharper attention.

This does not tell us why a certain level of intelligence is feeble-minded and the level, let us say, just above it is non-feeble-minded. Why, for example, is a mental age of eleven or ten and one-half — or whatever you please — the upper limit of the high-grade moron, and why is a year more non-feeble-minded? The answer is that the upper limit is in part arbitrary and based upon historical and social considerations rather than upon any biological standard, and in part rests upon rather dubious statistical considerations.[†] It happens that certain social situations arise which either make the care of the feeble-minded child difficult or make his remaining in society troublesome. As Dr. Elkind and I will show in our analysis of the reasons for admission to the Wrentham State School, social considerations form an important set of reasons for admission to a state school, and it is upon the experience in state schools that the original concept of feeble-mindedness rests. The low-grade feeble-minded demand a great deal of care. They cannot be sent to school; they do not learn to keep clean; they are disagreeable to have around, and so in a poorly-equipped home, or a home in which there is too much of a burden already upon the housewife, the human recourse is to turn the child over to the care of the State. Those of the higher grade who, as they grow older, happen to come into conflict with social ethics, who steal and violate the sexual code, are particularly difficult to handle because they cannot learn by experience and so they, too, are committed to an institution. The actual reason for sending them to institutions is social since more intelligent people committing the same offences are sent to jail. The criteria by which they are judged feeble-minded has become increasingly difficult to define when by studies of the whole population we become acutely, painfully, aware of the fact that the range of intelligence is much lower than we had hitherto believed to be the case.* As time goes on the mental level at which an individual is declared *not* to be feeble-minded becomes lower, so that today many psychiatrists and psychologists are averse to the term feeble-mindedness at an adult mental level of eleven, whereas there was a time when thirteen and fourteen were believed to show deficiency.†

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[*] At the Walter E. Fernald[7] School for the Feeble-minded, at Waverley, Massachusetts, it was long ago discovered that there was a very close relation between school progress and I. Q. The exceptions may thus be stated: Now and then an individual of good intelligence is slow in his school progress, and there may be some psychological factor other than intelligence at work in such cases. The feeble-minded, however, almost never rate higher in school than their I. Q. warrants. The reports of the Walter E. Fernald School for many years bore this out.

[†] For a discussion of this matter see the writings of Terman[15], Wells[19], Pressy[14], Porteus[13], Goddard[8], and Wallin[18].

The writings of Wells are especially valuable for a critical examination and evaluation of the present-day psychometric conception of feeble-mindedness.

An excellent discussion of the whole subject is found in Davies[6].

Hexter and I "have criticized very forcibly — whether rightly or wrongly — Brigham's" findings in relationship to the intelligence of the immigrant.

The relatively simple criteria of feeble-mindedness above discussed do not, of course, comprise the sum total of the diverse pathological characters which may be presented by the feeble-minded. In the young and low-grade feeble-minded a decided restlessness is seen, largely due to the fact that the diverse stimuli which comprise the environment offer themselves with more or less unselected equality, thus arousing a disorganized reaction. The capacity to select from the environment the objects of attention, the ability to pay attention in an organized way, is a relatively high-grade quality and the young moron and the low-grade feeble-minded, therefore, find this selection difficult. This restlessness tends to disappear, as even in these individuals an organization around definite trends and definite interests in a habitual way takes place. With this restlessness is a certain destructiveness which represents a low-grade curiosity reaction. Sometimes the feeble-minded are brutal and irritable, but much more often they are docile, are picked upon by the more intelligent, and become the butts of their contemporaries in time but their superiors in mentality — the other children. But brutality and docility are not traits necessary for the diagnosis of feeble-mindedness. Likewise with fear; many of the feeble-minded, while being examined or when placed into a new situation, show a panic of extreme type and seek to escape in a wild or flutteringly disorganized way. This is because the situation into which they are put is unfamiliar and incomprehensible. In many individuals not feeble-minded, unfamiliarity and incomprehensibility become readily transformed into apprehension and panic. But even the feeble-minded individuals may be trained into quiet, if not into understanding. Fear itself is no fundamental characteristic of the feeble-minded, as the widespread anxiety neurosis, a state far more common among the intelligent than the feeble-minded, shows. Thus of two cretins with the same mental age, the same general physical development, one may show extreme panic during the examination, the other lend himself smilingly and quietly to the procedure. In other words, as has been emphasized in the beginning of this paper, emotional states as such are not relative to the understanding of feeble-mindedness, though pathological emotional states are often enough associated with feeble-mindedness. Again the high-grade feeble-minded are often lazy, inert, unwilling to exert themselves, and become the loafers of the country town, the odd-job doers of each community, working only under the pressure of necessity, tending always to a quiescent, ineffective life. But a very much larger number of these high-grade morons are docile, industrious,* easy to get along with, readily follow those instructions which they comprehend, and seek, with the same social instinct that governs the life of the normal, to be in harmony with their environment. The concept that the feeble-minded form the bulk of the delinquent classes has passed away;† it represented a naïve overgeneralization and did not take into account that what we call character, or the sum total of attributes, is not necessarily greatly influenced by those qualities which we lump together as intelligence.* The feeble-minded, especially the moron girls, are often enough sex offenders. More properly, they are the sex offenders who get caught, and if it were possible to make a complete cross-section of the sex offenders of our times, the feeble-minded would present no preponderance of personnel. It is often enough true that the sex life of the feeble-minded, especially of the feeble-minded male, is explosive — bursts out into an overaction often hideous and starkly cruel. But many feeble-minded seem to have no sexual life at all, pass along without apparently sexual desire, are almost asexual.† Autoeroticism is common amongst the low-grade feeble-minded and represents here a pleasure seeking easily obtained — a pleasure seeking which, finding few other outlets, expends itself on the individual's person. Yet autoeroticism is so common that while it may be more prevalent among the feeble-minded than in the non-feeble-minded population (which I doubt), it does not represent anything *per se* feeble-minded. So one might run through the whole gamut of human emotions, human instincts, human qualities, and find that while the feeble-minded present in this or that field striking anomalies, in the main it may be stated that the association of other pathological mental characteristics with feeble-mindedness is in large measure incidental; that the diagnostic criteria arrange themselves completely and definitely around the varied qualities of poor learning capacity, of ineffective, delayed, or poor motor reactions, of limited range of interest and curiosity, of an impaired adjustment to life, which in the low-grade requires the simple hospital atmosphere, and in the high-grade may be successful enough. In fact, with the present organization of society the low grade mentally are very useful persons, carrying on activities which the higher grade refuse to do, sparing the rest of society disagreeable tasks, and are — so to speak — the helots of the social structure.

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* See Brigham's[4] "American Intelligence" for a typical example of the actual low-gradedness of our population. The views of Mencken and Nathan and the satirical authors from time immemorial find rather startling justification in the results of widespread intelligence tests carried on in the adult population.

† Goddard[8] asks, "Is it not possible that during all these years we have placed the limits of feeble-mindedness too high? Is the real limit seven years instead of twelve?" This from the learned and zealous discoverer of the moron.

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* See in this connection the experiences of Dr. Charles Bernstein[1], whose social placing of the feeble-minded under his care has become classical.

See also discussion by Davies[6].

† Of the bulky literature on this point I select the work of Healy and Bronner[9] as representing a most careful study made by two devoted and highly intelligent investigators, whose results bear all the earmarks of dispassionate scientific judgement:

"On the one hand these figures show clearly that the mentally abnormal among delinquents constitute a much greater proportion than is found among the general population. Yet, on the other hand, those who have so stressed the part played either by feeble-mindedness or mental disease in the production of delinquency will obtain from these most carefully developed findings small support for their extreme statements."

This whole book treats the problem of delinquency in the juvenile population in a most enlightened and candid way and is perhaps the most important book on this subject in the literature.

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* The whole conception of morality and character is changing in our time; there is a huge revolt against the conventional virtues and characteristics. The kind of conduct denounced in vigorous terms by the social investigators in their writings on the characteristics of the Jukes, the Kallikaks, the Nams and families of like renown are extolled by the "advanced" writers as characteristic of the finest and best type of human being, at least of the artistic type of human being; while the solemn social virtues, as they are conceived of by the orthodox social student, are denounced as babbittry, rotarianism, and the like. The plays presented on the modern stage, the books which make the deepest impression, documents purporting to be social in their evaluation of life, all stress as rather fine qualities which in the Kallikaks and the Jukes would be called vagrant, promiscuous, and the like. On the whole, there is no direct relationship between the intelligence and the acceptance or rejection of the conventional code. Certainly one would not classify Goethe, Napoleon, Caesar, Benjamin Franklin, Rousseau, Voltaire, to say nothing of characters nearer our times, as feeble-minded or of low intelligence.

† Walter E. Fernald[7] states as follows: "Apparently the discharged female patients have not contributed largely to the sex and venereal problem."

Of the 470 males 13 had married and have 12 children. "There was a surprisingly small amount of criminality, sex offence and especially of illegitimacy."

George L. Wallace[17] remarks: "The feeble-minded girl who indulges in illicit sex pursuits always gets into trouble one way or another, and is usually early discovered. The girl of normal intelligence similarly engaged is infrequently discovered."

It is a profoundly important fact in the history of medicine, as it is in the history of all human thought, that the early stages of hazy knowledge are marked by overgeneralization. I like to call this the "all cats look grey in the dark" phase of thought. For example, when little was known about insanity, about mental diseases, all mental aberrations were classed together under the heading, insanity. A unity was postulated which was based only on one thing — uniformly prevailing ignorance. Put mathematically the generalization was a function of the ignorance. As time went on, as facts accumulated, the unity was split up into units biologically different and having only one quality in common; namely, that the law regarded individuals suffering from these particular diseases as lunatics in order to commit them to an insane hospital. Thus we learned that certain mental diseases were caused by syphilis, others by alcohol, still others by changes in the brain brought about by trauma and especially by arterial disease. Still others of unknown origin ran in family groups, such as manic depressive psychosis and, to a lesser extent, the conglomeration called dementia praecox.* In a similar way we must approach the problem of feeble-mindedness and realize that the unification under one term represents merely ignorance and does not stand for an underlying unity. Therefore in the discussion of the inheritance of feeble-mindedness we are necessarily thrown back on the *inheritance of the various types of feeble-mindedness*, agreeing that we are able to define what is feeble-mindedness, which we have seen is somewhat of an assumption.

It is necessary to emphasize that the personal researches which form the basis of this paper represent the state hospital type of feeble-mindedness — a selected group brought together in institutions for social reasons or under the pressure of social forces — the segregated type. Other researches have shown that the great bulk of the feeble-minded, especially of the high-grade type, never reach the institutions and that our institutions would have to be enormously enlarged to accommodate even a fraction of those who, by our present criteria, are called feeble-minded. Our selected group was studied in two institutions: The School for the Feeble-Minded at Waverley, then under the leadership of the lamented Walter E. Fernald and since named after him; and the school at Wrentham under the leadership of Dr. George E. Wallace. In the first institution a clinical genetic study was undertaken. Dr. Louis J. Ullian carried on the bio-chemical studies; Miss Hannah Smith acted as field worker; and I directed the researches, as well as making the physical and neurological examinations. Thus our study was based on the technique and criteria of medicine, namely physical examination, biochemical studies, family history, personal examination of siblings and relatives wherever possible, utilizing to the full, of course, the psychological and other studies of the Waverley institution. The material was at first evaluated non-statistically and later, through the coöperation of Dr. Henry B. Elkind, was evaluated statistically. The second was a statistical study made of the Wrentham population — past and present — by Dr. Henry B. Elkind, Miss Smith and myself. This latter study will form a separate part of this paper.

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* For a more detailed discussion see the Inheritance of Mental Diseases, by A. Myerson[11].

It is with the first study that the directly succeeding pages concern themselves. We divided up the feeble-minded at Waverley into groups. The classification was based on certain criteria differing in kind with each group, so that no unified scheme of separation was followed, because this is impossible in the present state of our knowledge. The first group is that of the cretins, who look alike and have as the basic underlying defect a deficiency of the thyroid gland. This group is small in number but of great theoretic importance. The second group is a larger one, also made up of individuals looking alike and presenting a unified group of characteristics, but whose etiology is at present unknown though many interesting speculations have been made concerning them. This group is the so-called Mongolian idiots, a name utterly wrong in that they are only superficially like Mongolians and that many of them are not idiots by our present classification. The third group constitutes those individuals who present definite signs of organic disease of the central nervous system; paralyses, organic tremors, organic choreas and similar symptoms, the so-called spastic group, although this term should be discarded and we shall consider them under the heading of the organic group. The fourth group constitutes two miscellaneous series, both characterized by abnormalities of the size of the head: the one in which the head is abnormally large due to disorder of the circulation of the cerebrospinal fluid — namely, the hydrocephalics; the other very small group in which an opposite appearance is presented superficially in the size of the head; the head is abnormally small, and these are called microcephalics. As a matter of actual fact both these types of individuals might better be included under the head of the organic states, since they are fundamentally organic. But because they stand out so dramatically from the general population of the feeble-minded in these schools they have been studied separately. The fifth group constitutes the so-called congenital syphilitics, a group concerning which there has very recently appeared considerable scepticism. This group is identified by a positive Wassermann reaction with or without signs of congenital syphilis. Whether or not these individuals owe their feeble-mindedness to syphilis is a matter which we shall discuss later, but for the time being they can be considered together under the heading, not of congenitally syphilitic feeble-minded but as, more certainly, the syphilitic feeble-minded, since the doubt in their case is whether or not the syphilis is the cause of the feeble-mindedness. The last group is the most important because it is overwhelmingly the most numerous, and we have called it the unclassified group, meaning by this that in the present state of our knowledge we have no hint as to causation, although heredity has been largely blamed. Since heredity as an explanation or basis of classification is always open to suspicion I have avoided the use of this heading in our studies and use the term "unclassified" as synonymous with "unknown." Individuals of this group present a varied aspect. In many instances they show gross anomalies of appearance; in others no anomalies of any importance are present. They represent the group most commonly remaining in the community. There is, I believe, a disproportionate number of morons amongst them. In a general way they approach more nearly the diversity and the characteristics of the normal population, and they represent the most difficult social problem. After all is said and done, institutional care of the cretin, the Mongolian, the spastic type, the idiotic hydrocephalic, the grossly monkey-like type of the microcephalic presents no special difficulties and arouses no particular emotions except of horror and pity. But among the unclassified we find individuals who approach the normal in appearance and action; we find persons who carry on in the community and who have access, so to speak, to copulation and reproduction; who pass amongst the mass as relatively normal. This unclassified group then probably represents our greatest problem and it is concerning this group that we have the least definite knowledge.

Such a series of groups does not by any means completely analyze the feeble-minded. It is perfectly obvious that among the unclassified are individuals with endocrine dysfunctions, the only difficulty being to state which endocrine gland is involved; a more important difficulty being that endocrine therapy is of relatively little value in these cases. There are other individuals also studied in this paper who represent the sense-defect type of feeble-mindedness: the deaf individuals, the blind idiot.

As the last part of our Waverley study we have investigated certain outstanding family groups, families in which a large amount of feeble-mindedness has been found, several members of which are or were at the Walter E. Fernald School, and have taken special care to follow them into the community and to reach some conclusions as to the widespreadness of the familial defect. We cite a few of such families. The spectacular literature on feeble-mindedness concerns itself with the royal families of the feeble-minded, with the Jukes, the Kallikaks, the Nams, the Tribe of Ishmael, etc. These well-known studies seem to indicate that the collaterals of the widest range, as well as the immediate families themselves, are feeble-minded or defective, that an enormous amount of crime of the lower kind exists among such groups, that they are immensely prolific, that they threaten to swamp civilization. The specter of these families hangs over all the legislation which asks for the preventive measure of sterilization. Our family group studies of this type were undertaken to see whether or not we could find any such groups as the Nams, Jukes, Kallikaks, etc.; whether or not our Waverley families were so immensely prolific, and so fatally linked up with crime and widespreading feeble-mindedness.

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CHAPTER II

GENERAL REMARKS ABOUT HEREDITARY CHARACTERS

In the literature of medicine and of eugenics many pathologic states and characters are listed as neuropathic and are regarded as having bearing on the problem of the inheritance of mental diseases, feeble-mindedness and epilepsy. In a previous work*

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* "Inheritance of Mental Diseases." Myerson.

I discuss these characters at length and demonstrate — to my own satisfaction at least — that most of them are not to be regarded as having any bearing, so far as can be demonstrated, on the inheritance of the mental diseases. The "all cats look grey in the dark"* theory adequately explains the origin of what has been called the "polymorphic theory of heredity." A few words concerning this theory may be relevant:

"These are the cardinal points in the theory as elaborated by many writers and tacitly accepted by the majority of psychiatrists, biologists and eugenists even today.

"There is a unitary something in the neuropathic or psychopathic inheritance which makes itself manifest under many forms (thus the polymorphism). All manner of mental diseases, including the organic diseases, are thus labelled, and all psychoneuroses, including as well epilepsy, feeble-mindedness and crime. Up to this day this doctrine prevails in France, in England, and to a limited extent in Germany where attention to the details of mental diseases has side-tracked polymorphism, and in America where under a new guise, as Mendelism, it has been given the sanction of the foremost writers until very lately. In the excessive development given this theory headache in an ancestor was given a hereditary value in relation to the mental disease of his descendant. Even headache and fainting spells in a cousin had a dread significance, while the earlier writers laid great emphasis on tuberculosis, cancer, hemiplegia, gout, "rheumatism" and every chronic or semi-chronic human ailment. At the present day practically every mental hospital history in America wastes good paper by including data on these diseases in relation to the ancestors and relatives of patients.

"Lombroso[8] and his pupil, Nordau[10], gave to the term degeneracy the widest significance, so that on the one side of human development the lowest human beings—cretins, idiots, etc., were linked together with the highest development, the men and women of genius. His 'reasoning' is typical of that of the whole polymorphic school and I cite a few examples of it, though I could multiply them indefinitely in the writings of Morel, Fere, Dejerine, Clouston, MacPherson and others who have subscribed to the theory.

"Lombroso based much of his theory on his ideas of the stigmata of degeneracy which are both physical and mental. Thus he gives as signs of degeneracy common to both genius and insanity, shortness *and* tallness, rickets (which includes, God save the mark, rachitic, *lame, hunch-back,* or clubfooted, thus linking together at least a hundred diverse things under one heading), pallor and emaciation (which as every one knows are secondary to other conditions), stammering, left-handedness, delayed development, precocity, etc., up to a 'fondness for certain words!' And this passed for science, and was part of the work of an extraordinary personage. It never occurred, apparently, to Lombroso that all these stigmata are very common and found almost as frequently among the 'normal' as among the insane or the geniuses. He finds it rather sinister that a list of geniuses were weak and sickly in childhood, such personages as Demosthenes, Bacon, Descartes, Newton, etc. It would surely be a blessing if more people were then weak and sickly in childhood, if, alas, mediocrity did not also follow childhood diseases."

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* The prevailing fallacy up to recent years of considering those cases of feeble-mindedness hereditary in which insanity or other mental diseases occurred in the preceding generation is well exemplified by the statement of the great Seguin[12] when he says:

"It (referring to feeble-mindedness) is considered hereditary when there have been cases of feeble-mindedness or insanity in the preceding generation."

This basic defect of overgeneralization also is behind the report of the Massachusetts Commission in 1848, in which it attributed 22% of these cases to heredity. It also vitiates the work of the British Royal Commission[3].

In this paper we will ignore the occurrence of certain conditions in the ancestors and relatives of the feeble-minded as having no proved bearing on the problem of inheritance and, therefore, it will be wise to discuss a few of these conditions.

Alcoholism of Ancestors

Alcohol and alcoholism, *per se,* do not in our belief have any bearing on the origin of feeble-mindedness *in so far as our present knowledge goes.* The alcoholic may be feeble-minded and the feeble-minded may be alcoholic, but there is no necessary relationship between the two conditions either of a neuropathic or a genetic kind; that is, alcohol is neither a hereditary factor nor a causative factor. Studies of the alcoholics in the jails do not convince one that there is any great degree of feeble-mindedness among them. The elaborate and significant study carried on by Elderton and Pearson* is a comparison of the children of the alcoholic and the non-alcoholic of a Scotch city. Their conclusions are:

1. The mean weight and height of the children of sober parents is very slightly greater (when mathematically corrected) than those of the alcoholic.
2. The general health of the children of alcoholic parents appears on the whole slightly better than the health of the children of sober parents. There are fewer delicate children and in a most marked way fewer cases of tuberculosis and epilepsy!
3. Parental alcoholism is not the source of mental defect in offspring.

4. "To sum up then, no marked relationship exists between the intelligence, physique or disease of offspring and parental alcoholism in any of the categories investigated. It is needless to say that we do not attribute this to the alcohol but to certain physical and possible mental characters which appear to be associated with the tendency to alcohol."

While one need not accept all of the conclusions reached by the authors of this study, the facts themselves certainly make a relationship between alcoholism and feeble-mindedness unproved.* Fundamentally alcoholism is of social origin, and its main disastrous effects are more social, perhaps, than physiological or biological. The actual physical damage suffered by the alcoholic has been greatly exaggerated and racial damage has not been proven. The alcoholic races, such as the peoples of northern Europe, have no more feeble-mindedness than the non-alcoholic races, such as, the Jews and the people of the Mediterranean coast.

ORGANIC BRAIN DISEASE OF ANCESTORS

In the etiology of feeble-mindedness the occurrence of shock, paralysis, etc., in the ancestors has in many studies been given an importance which it does not in the least deserve. The bulk of "shock" and "paralysis" is due to arteriosclerosis of the brain and is part of the arterial degeneration which takes place with middle and old age, although it occurs now and then in young individuals. However, all persons acquire cerebral arteriosclerosis if they live long enough, and, in a sense, the greater incidence of shock and paralysis in the ancestors of a group is evidence for the longevity of that group rather than a mark of degeneration. This is quite adequately borne out by the statistics of Diem[3], Jolly[7] and others, and in fact whatever data we have on the matter shows that organic brain disease, as such, occurs more frequently in the ancestors of the normal than in the ancestors of the insane and feeble-minded.

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* Many of the medical writers have firmly and even passionately insisted that alcoholism is a source of racial damage of fundamental importance. Their whole attitude is that of the propagandist rather than that of the scientist; of the prohibitionist rather than that of the biologist. Bertholet[1], Horsley[6], Forel[4], Saleeby[11] write of this drug with an obvious moral tone which to some degree impairs their conclusions. In fact the whole emphasis laid upon alcohol and syphilis as sources of racial injury, of blastophoria (to use Forel's phrase) has a source in morals and to that degree does not properly belong in medicine and biology. For it does not appear that the forces which we like to personify as Nature have any regard whatever for our human conception of right and wrong, or any regard for our human values. (See discussion in my book, "Inheritance of Mental Diseases[9]" for more on this point).

For a dispassionate discussion of the whole subject of the relationship of alcoholism to feeble-mindedness and other psychopathic states, see the excellent book of Samuel J. Holmes[5], "The Trend of the Race." Holmes comes to no definite conclusion about the matter. It is obvious that some forms of alcoholism represent a mental disorder. A large part of alcoholism in my opinion, is a social, pharmacological reaction.

Peculiar Personality of Ancestors

Much stress is laid in the literature upon "peculiar personality." While it is true that peculiar personality is often enough a primary mark — so to speak — of mental disease, it is too widespread and too subjective an evaluation to be of importance in a family history. Peculiar personalities abound, and "all the world is queer but thee and me, and thee is sometimes queer" aptly expresses the general irrelevance of this summing up by one person of another. The intellectuals mock the lowbrows and the lowbrows poke fun at the intellectuals; business men tend to consider artists as odd and one has only to listen to the conversation of artists to appreciate the fact that they regard all the rest of the world and most of their fellow artists as queer. And there are not wanting those unregenerate who smilingly insinuate that the learned psychiatrists themselves are the queerest of the queer!

Other "Neuropathic" Traits of Ancestors

I need not go into detail about the relevance which such diseases as migraine, chorea, etc., have upon the etiology of feeble-mindedness. A recent study of migraine definitely indicates that there is no more "neuropathy" in the ancestors of the migraineous and in their descendants than there is in the ancestors and descendants of what we call the normal. Migraine is turning out to be a disease of physical-chemical basis and constitutes a problem in itself. In our study, therefore, we consider only the incidence of such conditions as feeble-mindedness, certain of the mental diseases, and epilepsy as factors to be considered and weighed in their hereditary bearing on feeble-mindedness.

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Chapter III

THE SPORADIC CRETIN

This study concerns twenty-five cretins of the so-called sporadic type, sixteen of whom were studied at the school at Waverley and nine in my private practice. It is thus seen that sporadic cretinism is relatively a rare condition and has, perhaps, been given undue importance in feeble-mindedness. Nevertheless, it is an exceedingly interesting condition and in the older days occupied a central position in the concept of feeble-mindedness and psychopathia in general.

The sporadic cretin is usually very short, ranging in adult life from about thirty to sixty inches. In some degree the height reached depends upon the efficacy and the early initiation of treatment. The body form of the cretin is characteristic: he tends to have a head large in size for his height and this head size is but slightly less than that of the ordinary individual. The neck is short and thick; the shoulders tend to be relatively broad, and the arms heavy and short. The lower limbs are short with heavy nates, rather thick thighs, and slender and weak calves. The facies of the cretin is characteristic: He has coarse, sparse hair with a rough, dry skin, a short wide nose of which the bone (according to an observation made first by us) is almost entirely cartilage and, therefore, extremely flexible. The tongue tends to be large, and frequently is lolling out of the mouth; the hands are short, spade-like, and clumsy. The secondary sexual characters appear, perhaps, somewhat later than normal, but do not seem to be deficient. Indeed the breasts in the female and the penis of the male often are rather large in relation to the size and weight of the individual.

The mental development of the cretin rarely reaches the moronic level, though it may under efficient treatment. Despite the fact that there is some traditional belief among the physicians in attendance on the feeble-minded that the cretin has a peculiar psychology, I am unable to discover any great difference from other feeble-minded, any unified emotional or social character among the cretins. Some are irritable and others are placid; some are stubborn and resistive, others are humble and docile; some showed excessive fear reactions while being studied, others took the examination as a pleasant experience and co-operated quite well. In other words, in their own crude way their psychological reactions ran the gamut of the normal psychological reactions.

There is a voluminous literature on the causation, etc., of cretinism. There is now no need to review this literature. It has gradually developed that the immediate cause of cretinism is a deficiency in thyroid gland secretion due to some unknown underlying cause. I refer the reader to the list of authors at the end of this article, and for a study of the earlier history of this condition especially to Wagner von Jauregg[3] and to the study of Kowitz. Among the later writers Nobel and Rosenbluth, Benedict[1] and Talbot[10], Moro[5] have importance and weight. The deficiency in the thyroid gland secretion fundamentally creates a lowered metabolic rate, and it is this lowered metabolic rate which is looked upon as the basic pathology of cretinism.

One may mention the opinion of Moro[5] who adopts the point of view that cretinism is a *neotenic* character. By *neotenia* is meant a persistence of the youthful conditions and characters into adult life, and he regards as neotenic characters in the cretins the persistence of the milk teeth, the delayed fontanelle closing, the delay in bony development, the non-closure of the epiphyseal junctions, etc. Apparently he regards excessive action of thymus, in its turn due to the atrophy of the thyroid, as the essential pathology. Finkbeiner[2] believes cretinism to be a sign of degeneration and regards the thyroid disease as only an evidence of this degeneration. Back of this thyroid degeneration, he points out, is a lack of the inflow of new elements from racial admixture, a stagnation of racial qualities.

A critical examination of these theories is not necessary. The cretin resembles the infant only by a caricature of some infantile characters, and one can find as many resemblances to senility. The Finkbeiner theory does not deny the rôle of the thyroid but merely finds its cause in a hypothetical stagnation of racial characters. Throughout the literature on feeble-mindedness, especially in the works of the earlier writers, one finds a constant tendency towards an atavistic explanation, to characterize feeble-mindedness as a reversion to primitive mentality. But primitive peoples did not lack thyroid however crude in appearance they may have been.

A good deal of work has been done on the brain condition in cretinism; one finds it cited by Wagner von Jauregg[3], Scholz[8], Quervain[7], Mott[6], and others. Whatever has been found is not essentially characteristic since it occurs in other states and presents the picture of a general and diffuse involvement of brain substance with loss and alteration of pigment of the nerve cells (chromatolysis), infiltrations and adhesions of the meninges, reduction of brain volume and general asymmetry of hemispheres.

The blood picture in cretinism has received some attention. I mention only the writings of Theodore Kocher[4] and Margaret Schonberger[9]. Their results are contradictory; our own studies indicate that where there is change in the blood picture it is in the direction of a mild secondary anemia, such as is common among all relatively inactive people. I may state briefly that the studies of Ullian* on our cases show biochemically anomalous sugar tolerance curves — that is, sugar curves which did not correspond to the normal but which took no specific direction, there being in some cases increased sugar tolerance and in other cases diminished tolerance. We are unable to account for the picture. The CO_2 combining power of the plasma was somewhat diminished. All other biochemical studies made were negative, including the coagulation time and the sinking time of the corpuscles. Since syphilis is traditionally suspected as the etiological factor of all obscure pathologic conditions the blood and spinal fluid of our patients were examined and were negative in every case to the Wassermann reaction.

Thus it will be seen that to classify cretinism as feeble-mindedness is really an emphasis on but one symptom. Fundamentally it is feeble-thyroidness and symptomatically it is just as much feeble-bodiness as feeble-mindedness. The cretin shows in his entire structure, as well as in his mental reactions, his disorder and deficiency.

THE HEREDITY OF SPORADIC CRETINISM

We studied this group very intensively, especially in view of the polymorphic theory which places cretinism at the end of the four stages of degeneracy. We placed special emphasis on the occurrence of thyroid disease of any type in the ancestors and siblings of our patients. (a) In one case there were two siblings, a brother and sister, who had cretinism. The brothers and sisters of these two, numbering seven, showed no evidence of thyroid disease nor was there any evidence of thyroid disease in the ancestors nor in the first cousins. H. Zoepffel[11] states that the occurrence of two sporadic cretins in one family is very rare in Germany. While our survey of the literature has not been exhaustive, it seems to be rare everywhere and when it occurs outside of the cretinous zone it is probably coincidental. (b) In one of our families there occurred thyroid disease in half brothers and sister, apparently due to paternal influence. In this family the father and mother separated after the birth of our patient; each remarried and had families. The maternal half brothers and sisters were normal. Of the four paternal half brothers and sisters two had goiter without, however, either cretinism or hyperthyroidism. (c) The Lahey clinic of Boston writes us that cretinism does not occur amongst the relatives, ancestors or descendants of patients with hyperthyroidism and goiter. (d) Amongst the eighty-two siblings of these cretins (fifty-three being the siblings of the sixteen Waverley patients and twenty-nine being siblings of my own personal cases), there occurred no no case of feeble-mindedness, nor was there any associated cretinism. *Therefore, feeble-mindedness of other types does not seem to be associated in any biological way with the feeble-mindedness of cretinism so far as siblings are concerned.*

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* These will be cited in a separately published paper by Dr. Ullian.

Nor did we discover in the history or by the examination of the parents any evidence of feeble-mindedness. Most of the people of this group belong to the lower cultural class, as is naturally the case of the relatives of the patients of a state hospital. Many of the parents were immigrants and illiterate. All that one can state is that there was nothing in their lives, in their adjustment of society, to indicate a pathologically low mentality. They corresponded, on the whole, to the normal poor people.

As to mental disease, the father of one cretin had general paresis, a definite syphilitic infection of the brain, the hereditary implications of which I have discussed elsewhere* and which, so far as can be proved, has little or no hereditary bearing.

One cousin of the two or three hundred cousins is reported as having a mental disease of unknown type, characterized in a general way so as to resemble the disease known as dementia praecox. The personal family studies emanating from the

Taunton State Hospital and elsewhere* disclosed no cretin as the direct descendants of cases of dementia praecox. It is therefore unlikely to the point of the impossible that this case bears on the inheritance of cretinism.

There were two feeble-minded in the collaterals, one first cousin and one second cousin. Since there were, on a reasonable assumption, at least two hundred of such relatives in this group, the occurrence of feeble-mindedness in two collaterals cannot be held to be of importance. There was plenty of tuberculosis, pneumonia, organic brain disease, etc., in the relatives of these cretins, likewise there was much discord in their families. These factors cannot be evaluated. It is very unlikely that tuberculosis (to select one condition), which is one of the great common diseases, occurs more frequently in the case of the ancestors or relatives of the cretin than it does in the case of the ancestors or relatives of the normal, except in so far as tuberculosis is a disease mainly ravaging the poor and those living under poor hygienic conditions. And in regard to family difficulties, there does not seem to be any increase of cretinism parallel with the rising divorce rate, else the higher cultural group would have children who were all cretins.

Thus it may directly be stated that cretinism has no hereditary relationship, first, to other forms of thyroid disease, although this statement must be somewhat cautiously made in view of the case with a cretin brother and sister and the case with thyroid disease among the half brothers; second, it has no relationship to other forms of feeble-mindedness; third, it has no hereditary relationship to mental disease in general. It is, so to speak, a congenital or early acquired thyroid disease, sporadic in fact as in name, depending upon some pathological state arising in utero or early in extra-uterine life. It is impossible for us as yet to study intra-uterine conditions; very likely these vary sufficiently from pregnancy to pregnancy to account for many things not at present understood.

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Chapter IV

STUDY OF MONGOLIANS

The Mongolian, or Kalmuc, idiot, is an exceedingly characteristic pathological specimen, diagnosable at first glance by the short stature, the slanty eyes, the flat occipital region and the "strawberry tongue." The general body of the Mongolian idiot is much more delicate than that of the cretin; the neck tends to be more slender and the torso is not so pudgy nor so powerful; the legs are short, rather slender, and the nates are not over developed; the arms are usually poorly developed; the hair presents no particular peculiarities; the skin is usually smooth and often fissured around the nose and mouth because of the frequent nasal and laryngeal infections. The nose of the Mongolian is usually quite bony as contrasted with that of the cretin. Very commonly the little finger of the hand and the small toe of the foot present a peculiar convexity and shortness. The adult Mongolian rarely reaches a height of over four and one-half feet, and is usually even shorter. However, there are Mongolian idiots who reach a height of five feet though these are rare.

The mentality of the Mongolian is somewhat understated by the term idiot since the majority of those in our series belong to the imbecile group. Very rarely does a Mongolian reach the moron level. In other words, the feeble-mentality is accompanied by a very decidedly feeble and somewhat grotesque body structure. The term *Mongolian* is a gross libel on a great division of the human race, since the only resemblance to the true Mongolian is in the slanty eyes. The Mongolian idiot does not have high cheek bones, coarse black hair, is extremely short, which the Mongolian is not, and in no essential has the physical or mental development of a race of mankind which on several occasions has conquered most of the world, has a historic civilization, and is by no means an inferior division of the human race. Thus the term "Mongolian idiot" is an error in its two parts: the patients are neither Mongolian nor are they necessarily idiots.

There have been many theories advanced to account for the genesis of the Mongolian idiot. These range from the fantastical ones, that the patient represents a sort of atavistic cropping out of Mongolian blood in otherwise white races, a theory based on the superficial resemblance to the Mongolians and without the slightest proof whatever. Another theory, about as credible, is that the Mongolian idiot corresponds to the orang-outang among apes, that living dwarf breeds are related to the negro race, and the Hottentot races have the Mongolian traits of wide flat intro-ocular fields and poorly developed super-orbital ridges.*

A "fact" often advanced as of etiological moment in the causation of Mongolian idiocy is frequent pregnancies with the patient as the last of the series of children in the families, or a birth rate of somewhat more than five children to the family. Of course thirty-seven cases are not enough to draw any conclusions as to birth rate; on the face of it this birth rate is somewhat higher than that of the general community, though within the range of probable error. (a) Of these cases seven only were the last of the series. (b) In four families the patient was the first child born. (c) In the other cases the patient was in the middle of the series, sometimes towards the end, sometimes towards the first born of the group. (d) At any rate such an etiological factor would not account for those of our cases in which the patient was the first born or the only child of relatively young mothers. Taking into account the small number of cases, there is no especial evidence to show that either the number of pregnancies or the order in the series of pregnancies has anything to do with the genesis of Mongolian idiocy.

Walter Timme[7], who contributes to this volume, writing on the Mongolian idiot states that:† "Studying Mongolian idiots at the Waverley School (also our cases), in most cases we found changes in the skull. This change consisted in an excavation under the anterior clinoid processes, and presumably under the oblivary process and optic groove, and the excavation communicated directly with the anterior portion of the fossa itself." On the basis of this finding, which Dr. Timme declares is found in other conditions besides the Mongolian idiots, he advises the hypodermatic injection of anterior lobe extract combined with whole gland feeding and thyroid administration in small doses. In those cases in which I have tried this treatment I have obtained no clinical results.

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* See in this connection the work of Sir Arthur Keith[4] and Mr. Crookshank[8].

† This is cited from his work, "The Mongolian Idiot[7], a Preliminary Note on the Sella Turcica Findings."

All efforts to influence the condition of the Mongol by thyroid have failed. Although the Mongol is by a superficial study often mistaken for a cretin there is no fundamental resemblance between these two conditions.

Vas[9] postulates an adrenal insufficiency in Mongolian idiocy, and bases this on low blood pressure, Sargent's white line sign, *i.e.*, a persistence of a white line after stroking the skin, and slow coagulation time. Ullian and I studied the Mongolian idiots at the school at Waverley and were unable to corroborate any of Vas' findings. The blood pressure was not particularly low considering the size of the individual studied; the vasomotor reaction was normal and the coagulation time studied by the slide method was within normal limits.

Van der Scheer[8] states: "Some anomaly in the mucous membrane is responsible for some anomaly in the amnion of which Mongoloidism state is the result."

Armstrong's[1] observation is: "The ultimate cause of Mongolism is unknown. The question is: Is Mongolism present in the unfertilized ovum or is it acquired after fertilization?" He states that of twins only one is usually a Mongol and the other is not.

Wile[10] states: "There is no evidence of direct inheritance although the total pattern of Mongolism suggests reversion to some earlier type."

There is, however, some rather slender evidence that the condition is of germ plasm origin; the most important being that identical twins have been Mongolians. Mitchell[5] and Downing[5] state: "There have been twenty-four instances of Mongolism reported in one or both twins. In fifteen of these the condition was present in only one of the children, the other and normal twin being of the opposite sex in eleven cases, the sex not being stated in the remaining four. *In three cases Mongolism occurred in both twins, the sex being identical.* In six cases Mongolism occurred in one of the twins of the same sex, in four of which there were two placentas present at birth, in the other two the condition of the placentas was not stated. These facts are in favor of the theory of Mongolism being a germ plasm defect and are against any theory which holds that causes operative during pregnancy are at fault. In no case has it been demonstrated that Mongolism can occur in only one of twins, the result of a single-ovum pregnancy."

Brousseau[2] and Brainerd[2] have recently written an elaborate monograph on Mongolism. The reader is referred to this volume, which was printed after this section of this article was written, for a complete account of the literature and a discussion of the various theories. Fundamentally the authors conclude, as I have done, that there is no known cause of Mongolism, that it does not occur in any direct relationship to the order of birth or to the age of the mother. The physical characteristics of the Mongol are well illustrated in this volume and the whole book is a careful and clear account of the condition.

Whether or not a germ plasm defect causes Mongolism, it can be very definitely stated that some pathological mechanism is at work which operates early and regularly, since Mongolism occurs in all of the white races, at least, as well as amongst negroes,* and Mongols resemble each other more closely than do brothers and sisters. The striking uniformity of the picture presented by the Mongols argues quite conclusively for a definite etiologic factor operating before birth, and it is very likely that it is independent of the conditions of pregnancy.

HEREDITY OF THE MONGOLS

(a) Of the one hundred fifty-seven siblings of our thirty-seven patients there was not one other case of Mongolism in the family. One Mongol had a twin who died shortly after birth. (b) Further, there was only one other case of feeble-mindedness, which is an extremely good record for thirty-seven families comprising one hundred fifty-seven other individuals. In other words, the evidence is that the Mongolian form of feeble-mindedness is utterly unrelated biologically to all other forms of feeble-mindedness and is consequently to be declared a problem in itself. (c) Moreover, so far as our histories went, there was very little mental disease in the relatives of the group. One patient had a maternal aunt with manic depressive psychosis and two deaf and dumb cousins. In one case there was a maternal uncle who had "been declared to be epileptic." The brother of one Mongolian idiot had a brain injury at birth and was epileptic. That the two cases of manic depressive psychosis had anything to do with the Mongolism of their niece and nephew cannot be advanced with any seriousness, since the study of manic depressives made at the Taunton Hospital and in the world literature revealed no case of Mongolism among the descendants. In other words, the occurrence of these two cases is unquestionably coincidence. (d) In fact, the total mental picture presented by the families of the Mongolian idiots is good, much better than that presented by most so-called normal families, for it is surprising how much psychopathology is rather evenly distributed throughout the population. (See articles of Koller, Diem, Jolly, cited in "Inheritance of Mental Diseases," and W. Boven.) Thus while we must include Mongolian idiocy as possibly a germ plasm disease, it is important to note that it has no known hereditary implications, that it seems to rise *de novo*. *It is on that basis that I am led to conceive of it as a sporadic injury of the germ plasm rather than as an inherited quality.*

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* Maxwell G. Schlapp[6] cites cases of negro Mongols. It would be interesting to discover whether or not the Chinese had Mongols. If a case of Mongolian idiocy were found among the Chinese this would paradoxically knock out the whole term *Mongolian idiocy*.

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Chapter V

THE ORGANIC BRAIN DISEASE GROUP *

The organic brain disease group is not homogeneous but is made up of several groups if we discriminate according to etiology, or apparent etiology, since in all these cases the differentiation between one apparent cause and another is difficult.

In the first place, there is a group which occurs congenitally and without known cause — that is, without birth injury and without the known occurrence of an infectious disease early in life. To explain this so-called abiogenetic group (Gowers) it is assumed that part of the brain, especially the neopallium, has not evolved, thus leaving a kind of decerebration analogous in results to the type seen in animals after experimental extirpation of the neopallium, or of the basal ganglia, and which we see evolving in post-uterine life in Wilson's Disease, Huntington's Chorea, and other organic brain alterations.

The second group of importance is the birth-injury group. Here difficulties supervene since statistics on the subject of the results of birth injury seem to be very difficult to obtain, as we experienced when we attempted to look up the injury cases of the Boston Lying-In Hospital. However, there seems to be no doubt on the basis of experimental and pathological work done that birth injuries occur as the result of prolonged, dry and difficult labor with asphyxia and hemorrhage incident to overlong and difficult first-stage labor. Some of the group of cases arise through difficult or unskillful obstetrics intervention, as in the cases where high forceps are used for abnormal presentation, and especially where version is attempted and poorly achieved. That this is a source of injury which results in organic damage to the brain with gross symptoms is unquestioned; though its relative incidence is in doubt. It is also probable, according to the work of Sharpe, Finklestein and many others, that diffuse injury occurs in the so-called silent areas of the brain. Unfortunately the so-called silent areas are associated with mentality, as for example, the anterior part of the frontal lobes and, to a lesser extent, certain portions of the parietal and occipital lobes.

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* This term is used to include the *gross* organic brain cases, those with outstanding and unquestionable symptoms. That there are many cases with lesser or doubtful symptoms seems certain to me, but I am not concerned with these cases at this time.

There is a third group, resulting from infectious disease occurring in early childhood, or infancy, in which the typical history is that the individual seemed normal until certain things occurred. Perhaps the child walked and talked and seemed in every way normal; then a "fever" supervened; the child was stuporous, had a series of convulsions, following which development conspicuously lagged, and there was no complete resumption of normality. In other cases the history is less clear: A series of convulsions without other definite signs took place. In some of these cases we are perhaps dealing with organic epilepsy; in some cases no other convulsions ever occur but the child is from the time of the series of convulsions inferior in mentality.

Of the infectious diseases which we now link up quite definitely with alteration in mentality and general personality, encephalitis must be given first place. There is a voluminous literature showing that in adults recovery from encephalitis is always uncertain, and that gross anatomical changes take place especially marked by the involvement of the corpus striatum and related parts, creating the so-called lenticular syndrome — in lay terms, the shaking palsy. An impressive literature has sprung up in the last few years showing that serious mental changes follow encephalitis in children. The main mental changes are feeble-mindedness and personality alteration. In some of these cases a recovery from the feeble-minded state takes place slowly, thus differing from all other forms of feeble-mindedness; but in many cases no such recovery takes place and the individual remains mentally defective. This is one of the situations in which statistical analysis is almost unnecessary in that we have the highly important and "control" fact that without some organic pathological alteration feeble-mindedness does not occur, once the mentality is established at normal. Meningitis, which has the fortunate result that it usually destroys when full or almost full recovery does not take place, now and then contributes a lowered mentality as result of the brain changes which accompany it.

It is difficult on the basis of what might be called the finished product — that is, the individual who has for some years shown feeble-mindedness with gross neurological signs, to differentiate between these three groups of conditions, since in neurology it is not so much the *cause* as the *location* of the lesion which creates the symptoms. Thus any injury to the motor convolutions will create a spastic paralysis irrespective of whether the lesion be a new growth, a hemorrhage, thickened adherent meninges, a hemorrhage following a fracture, etc. So that we have to fall back on relatively simple and probably inaccurate factors in the history. The division of these organic cases into groups, therefore, must be taken as very provisional and as without real accuracy.

(1) *Organic Brain Disease without Known Cause:* There were thirty cases at the Walter E. Fernald School in 1924, when this part of the research was going on, in which there was no history of birth injury, or infectious disease, nor were there convulsions or infection occurring after a period of normality. These thirty cases showed a wide range of physical and mental defects with the motor states ranging from the choreiform type of movement to those presenting diplegia — that is, all four extremities paralyzed; from individuals who ranged in mental age from the lowest type of idiot, untidy, completely paralyzed, having to be cared for in every single detail of their lives and who merely existed, to persons who were alert, active, who helped around the ward despite their disabilities. One case was remarkable in that this patient took it upon himself to educate himself and had finally reached a mental age beyond the upper limits of the feeble-minded, so that had he presented at first what he finally reached in mental development he probably would not have been classed as feeble-minded.

Heredity of this Group: Of these cases two (a) are those of a brother and a sister. The family history otherwise is entirely normal, that is, the individuals of the elder generation belong to a family on a low-grade cultural and economic level, more or less illiterate since they are Italians from the poorer districts of Sicily, but whose lives present no anomalies and whose physique was good. I believe we can eliminate in these cases as having etiological bearing the fact that a cousin "was in the reformatory" or that the mother of a large family was "irritable and nervous" at times. If such factors are admitted as etiological then there are no normal people in the world. Even in the higher grade groups any woman may be nervous and irritable at times without any great biological significance being laid to her reactions. In this family, in other words, two siblings present similar anomalies of development. (b) In another case the girl patient has a second cousin, also in the institution, who presents, however, no injuries to the central nervous system with no paralysis, organic chorea, or convulsions. There are three brothers of the patient under consideration who are normal. We are, therefore, reluctant to admit as having any hereditary bearing the occurrence of a different type of feeble-mindedness in a second cousin. (c) A third patient has six brothers and sisters who are well, but one brother who has presented a similar condition to our patient. On the maternal side there was a deafness which ran through the family, apparently of the hereditary type. Another patient had an epileptic sister. (d) *There were in this group one hundred twenty other and normal siblings.*

In the parental history of these patients there is the history of (a) one mother who had repeated nervous breakdowns which, however, never resulted in her commitment to a State Hospital; (b) a father who was said to be of low-grade mentality and very likely feeble-minded. There are several instances of alcoholic fathers and alcoholic mothers.

Thus it appears among these spastic cases with no definite etiological background that in some cases similar conditions occur among the siblings — in this series two cases. No cases, however, occurred among the parents; undoubtedly because such individuals rarely marry or have children. If birth were possible to them one might get an incidence of descendants with similar states, which might correspond to Mendelian or other ratios. But this is idle speculation since the physical state of these individuals precludes copulation. All one can definitely state is that an explanatory hereditary tendency may be postulated; that possibly the germ plasm lacks the conditions for normal brain development. But intra-uterine conditions may produce this result without invocation of heredity at all. For myself, I think it wiser to invoke intra-uterine conditions, such as fetal encephalitis, as a cause rather than to fall back on heredity, *especially since we have many instances of encephalitis in post-uterine life which account for similar conditions.*

(2) *Birth Injury Group:* Of the Waverley organic brain cases, there were twenty-five cases in which the birth was especially difficult and which was followed immediately by evidence of paralysis. The history in these cases will arrange itself in various ways but the common ones are: (a) Child born asphyxiated, with convulsions and low vitality for a few days, following which paralysis and weakness were noted; (b) two—head badly crushed and child black when born; (c) feet presentation with very difficult labor, baby taken with instruments, had to be worked over two hours to produce breathing; (d) crossed position with asphyxia; high forceps and convulsions. (e) Of four of these twenty-five cases it was stated that the mother had Bright's Disease when she was pregnant. (f) One child had a large meningocele when born. (g) In one case of identical twins the first was born with great difficulty and shows a spastic condition; the other twin is normal, birth being easy (first child bore the brunt of the dilation of the uterus and the birth canal).

I here cite two cases* which I have followed from birth, in which the injury was undoubted. In both of these instances the family history is entirely negative; subsequent children have been well in both cases, the injured child being the first born. In the first case the child was extracted by high forceps, was cyanosed and it took over an hour for successful breathing to be established. Lumbar puncture done, showed bloody fluid and increased intracranial pressure. The head was extremely distorted, there being an extremely elongated caput. A series of convulsions took place immediately after birth. There was a definite weakness on the right side of the body. This side of the body did not move at all, whereas the other side could be induced to move by pin prick. After a few days the child seemed brighter and gradually improved, so that at the end of six months there was no evidence whatever of hemiplegia. Nevertheless at the age of three the child is unable to talk and cannot walk; it was a year and one-half before he held his head up and two years before he sat up, and is at the present time definitely feeble-minded. In another case (these are merely cited as representative first births with prolonged labor and high forceps), there was a considerable bruising of the child's face, the presentation having been a face presentation. It was noted shortly afterwards that the child was unable to move one side of his body and he developed at the age of two months right-sided Jacksonian convulsions (this of course resulting from a lesion of the opposite side of the brain). At the age of one year, the Jacksonian convulsions having persisted, it was decided an operation was worthwhile trying. Accordingly a trephine was done and a subdural hemorrhage was found. This was removed. Other surgical procedures were carried out. Since that time the child has not had any convulsions. At the age of two and one-half, however, he shows a hemiplegia of the right side; he is unable to walk, says only papa and mama, is at least one year behind his chronological age, and will undoubtedly remain feeble-minded.

Birth trauma as a cause of paralysis and mental deficiency first became definitely established in medicine with the work of J. W. Little[5]. Little[5] established the syndrome known by his name, which essentially is a spastic paralysis usually of all four extremities and due to an intracranial hemorrhage often in relationship to the meninges, although the site of the lesion varies. His work was followed by that of others who, in general, confirmed his statements. A very important contribution was made by Sarah McNutt[6] who gave the pathology a much more definite meningo-pathological basis. It is interesting to note that Sigmund Freud[3] wrote a notable monograph on this subject. Without citing in detail the large number of able writers who have contributed to this subject it can be stated that in Germany the work of Seitz[8], Ylpö[12], Phillip Schwartz[7], and Dollinger[1] are of especial importance, since their researches have been systematically carried on for a good many years. Seitz believes that intracranial damage to the foetus arises in the main from injury to the larger blood vessels. The prolongation of the birth, and especially the relationship in size between the oncoming head and the mother's pelvis, is all important. He goes into details as to the clinical symptoms and signs which indicate brain injury. Schwartz's systematic researches have been of first importance; he relates the brain injury to the difference in pressure between the contents of the uterus and the atmosphere, and describes subdural and pial hemorrhages, as well as hemorrhages of various sizes into the brain substance itself, to this difference in pressure. He describes needle-like areas of softening, which lie around the lateral ventricles. Hemorrhages take place not only in the brain but also in the buttocks, the abdominal regions and in the underlying organs. The body hemorrhages are easily remedied by nature; unfortunately the injuries to the brain tend to remain permanent. Ylpö discusses premature birth and shows that the more premature the child the greater the predilection to hemorrhage and brain softenings. Dollinger followed up a large number of cases following birth trauma. Ylpö found seven and four-tenths per cent idiots and imbeciles among three hundred premature children whom he followed for several years; Dollinger finds a higher percentage among the high-grade feeble-minded whom he studied. The clinical observation of these authors is detailed and describes those symptoms by which brain injuries are diagnosed early.

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* Dr. Bronson Crothers[2] who has paid a sharp and learned attention to birth trauma and the consequent nervous and mental injuries, has recently sent me a record of two very relevant and accurately followed cases of birth injury and feeble-mindedness. These cases occurred in normal families and no psychopathic or neuropathic trend can possibly be postulated in his cases.

In this country, Sharpe[9] has utilized the method of investigation which at the present time is becoming perhaps the most important in the clinical study of the brain, namely — the lumbar puncture method. I cite the statements first which he made in 1925, and the later more important clinical study published in 1926:

"In 1913, I became interested in the chronic condition of cerebral spastic paralysis and, in taking careful histories of a large series of patients at two of the orthopedic hospitals of New York City, and then by thorough neurologic examinations including the routine ophthalmoscopic and lumbar puncture tests, it was surprising to note that in a small percentage (12 plus per cent) of these patients there were evidences of an increased intracranial pressure of chronic cerebral oedema. Occasionally, in a very small number of the older patients, the X-ray disclosed evidences of convolutional markings of the inner table of the vault, due to its atrophy resulting from the prolonged increase of the intracranial pressure.

"The history of these chronic patients having the condition of cerebral spastic paralysis is rather instructive. During the past ten years, up to January, 1923, I have examined personally 5,192 children, and of this total number examined, 671 (12 plus per cent) have had an increased intracranial pressure as disclosed at lumbar puncture. The operative and post-mortem findings have revealed "wet" oedematous brains under varying degrees of increased pressure, and along the supracortical veins in the sulci was a whitish cloudy new-tissue formation, reported pathologically as being the organization-residue of a former layer of hemorrhage which had occurred most probably at the time of birth. Gross cerebral lesions of intra and subcortical hemorrhagic cysts, old cerebral lacerations, etc., were disclosed in only 6 plus per cent.

"The histories revealed the following data: 81 per cent first children; 72 per cent males; 95 per cent full-term babies; 90 per cent difficult labors; 76 per cent forceps used as last resort; 17 per cent breech deliveries; in 8 per cent pituitrin had been used.

"During the first week, the following observations had been made: 64 per cent more drowsy and stuporous than normally; 23 per cent refused to nurse; 78 per cent evincing a lessened normal demand for food; 39 per cent muscular twitchings, especially of orbital muscles and fingers; in 17 per cent general convulsive seizures occurred; in 18 per cent an icteroid appearance was present.

"Within two weeks after birth, 61 per cent were considered well and normal, if indeed anything abnormal had been suspected. Within one month after birth, 82 per cent were considered normal.

"Within the first year and usually around the seventh month after birth, 79 per cent of the children were not developing as they normally should, such as holding up the head and later beginning to sit up, and at this time, within the first year, the development of spasticity of varying degree and type was usually observed. Later the child did not walk or learn to talk within the usual time, and it was this development of a chronic condition in an apparently normal child that was most mysterious, to say the least, and its presence was ascribed to almost every possible cause. In this connection, I may state that the Wassermann test of the cerebrospinal fluid was positive in only one-half of one per cent."

Another paper by Sharpe is summarized as follows:

"1. Intracranial hemorrhage of varying degree occurs rather frequently, in 9 per cent of this series.

2. Its acute signs are often meager and may be apparently entirely absent, the more common signs being from drowsiness to stupor, from difficulty to refusal to nurse and from muscular twitches to general convulsive twitches.

3. First born, full-term males having difficult prolonged labors are more liable to this complication, forceps being used as a last resort rather than their early application; medium forceps and breech extraction.

4. Hemorrhagic disease of the new-born is not a common etiologic factor, at least in this series of cases, in which puncture was done and tests were made within from twenty-four to forty-eight hours after birth.

5. Lumbar puncture as an early diagnostic method when the hemorrhage is still in fluid form, and as a therapeutic means of spinal and cranial drainage, is a simple and safe procedure in the absence of severe shock."

Ylpö makes the important point that the smaller and more premature the child the more liable to hemorrhage its blood diapedesis; especially is this true if the membranes have ruptured prematurely. With the membranes intact the pressure of the intra-uterine forces is equalized throughout the body. When the membranes are broken the pressure is irregularly distributed and especially focuses on the head, so that there occurs hemorrhage from the blood vessels inside and outside of the head.*

Of the twenty-five cases of organic brain injury apparently following child-birth, the hereditary background is with difficulty ascertained, since the family histories are in many instances vague, and it was difficult to obtain information concerning many of these patients. Of the positive pathological statements made concerning the families: (*a*) There is in the records one case of a brother who is feeble-minded. (*b*) In another instance the father is declared to be insane and the mother hysterical, without further details. (*c*) In another instance the father was brutal and a drug habitué. (*d*) An interesting case is the one in which the patient was the first of a pair of twins, the second twin being well. (*e*) As far as the records show there were sixty-eight siblings with, on the whole, no more than the expected amount of feeble-mindedness.

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* F. R. Ford[2] gives a full and valuable account of the literature on birth injuries, especially in relation to the creation of paralysis, hydrocephalis and epilepsy. He states briefly that such mental defectiveness as is found as a result of brain injury at birth is usually associated with obvious organic disease. Among the important authors whom he cites, and who have not been cited in my article are Putnam and Cushing, Dandy and his co-authors, B. Sachs, B. Crothers, G. Wilson, Fraser, Dott, Adolph Meyer, and others. Most of the writings on this subject concede the relationship of the gross paralyses and associated mental defectiveness with birth injury, especially in the form of hemorrhage. Few of the authors, however, have concerned themselves with the relation of feeble-mindedness with the paralytic signs to birth injury.

See also the textbooks of Ireland[4], Tredgold[11] and Stoddard.

In the light of clinical experience there can be no reasonable doubt that brain injuries at birth or at any time may cause feeble-mindedness. The only question is the amount of feeble-mindedness thus caused. The brain is the main organ of the mind; this does not need proof, unless one is a theologian or a philosopher. Adults with fully developed minds become demented as the result of brain infection and brain injuries. Brain injury at birth seems to be very much more common than we had supposed it to be, since the occurrence of blood in the spinal fluid definitely indicates hemorrhage and hemorrhage is due to trauma if, as has been the case in Sharpe's work, the so-called hemorraghic diathesis can be ruled out.

A matter which needs considerable investigation is the question whether the modern woman is becoming less capable of delivering herself as compared with her predecessors. A result of the lessening size of families is that those children who are born have a more difficult birth, because as a general rule the most difficult birth is the first one, and the more frequent the incidence of births the easier, relatively speaking, the births. The children of the small family have, therefore, on the whole more trauma at birth than the children of the large family. The age of mothers at the time of their first child thus becomes of great social and biological importance.

ENCEPHALITIS AND BRAIN INFECTION

Among the organic, or spastic, group was a considerable number of patients of whom it was recorded either that they had been normal up to one or two years of age and that then an infection or a series of convulsions occurred, from which their backwardness and paralysis were dated; or else it was more vaguely noted that a series of convulsions occurred in very early post-uterine life, from which time the deficiency plus the organic brain symptoms and signs were noted. There were thirty such cases at the Waverley School, in addition to which we collected some cases from the records of the Boston Children's Hospital. We shall first discuss the cases at Waverley. The following are type cases:

(1) Birth normal, had been walking and talking, when at twenty months the child had a fever which lasted for two weeks,

during which time he was stuporous; from that time the feeble-mindedness and the paralysis date.

(2) At eighteen months this child had convulsions with "brain fever"; when fever ended he was paralyzed.

(3) At six months had a series of convulsions, following which the paralysis appeared.

(4) At one and one-half years had convulsions, fever and later the paralysis and the feeble-mindedness.

(5) At two and one-half years had a fever with delirium for three months, was left partly paralyzed.

Such histories appear with modifications in all of the thirty Waverley cases. (*a*) Of the one hundred four siblings in the thirty families there are three who are quite definitely feeble-minded, but all three of these occur in one family — that is, of twenty-nine families the patient is the only feeble-minded person. In one, he is one of three feeble-minded children. (*b*) Concerning the parents and collateral relatives: It is recorded in one case that the paternal uncle "is said to be feeble-minded." (*c*) Of one, the father died insane but at what age it is not stated, nor have we been able to discover what type of mental disease he had. (*d*) The father of one patient had a nervous breakdown from which he recovered. (*e*) The father of another was intemperate, abusive to wife and deserted his family. (*f*) The mother of another was at the Boston State Hospital, the diagnosis there being "psychosis with mental deficiency." (*g*) The father of another patient quarreling with his mother-in-law, broke her arm. (*h*) There is considerable physical illness, much matrimonial difficulty in the brothers and parents, the uncles and aunts of the patients. If one placed all these things into a statistical hopper and gave them the same set of meanings and values, one could easily disclose a strong hereditary taint in the case of these children, and prove thereby that an infection merely brought out a neuropathic taint. This has been extensively done in the past and is fundamentally erroneous. Matrimonial difficulty and general physical illness are altogether too common to be given specific hereditary value. Social delinquency cannot be placed in the same class with infectious diseases. *By extending the list of conditions which may be declared hereditary, one finally extinguishes all differences, comes down to the fact that man is mortal, has weaknesses and is sinful. A linking-up can thus be made between the vicissitudes and misfortunes of life and feeble-mindedness.* The important facts in this study of this group are, so far as heredity is concerned, *the relative absence of feeble-mindedness* in brothers and sisters, and the relatively few cases where definite feeble-mindedness occurred in the parents.

The clinical conclusion is that the important thing in the etiology of this type of feeble-mindedness is the infection or the cause of the convulsions, and that other matters are as yet fundamentally irrelevant.

We studied a series of cases of encephalitis from the records of the Boston Children's Hospital. It is only within recent years that encephalitis has become a diagnosible condition, and even yet the use of the lumbar puncture to establish a diagnosis is uncommon except in the highest grade medical institutions. I believe that we may assume that an individual who has been normal up to his second year and who has been evolving well, has learned to walk, talk and keep himself clean, and then becomes sick with an infection of the brain and from that time on is defective, that the infection created his deficiency; that the chief constitutional difficulty is the susceptibility to encephalitis, and that this susceptibility has nothing to do with neuropathic or psychopathic traits. There were eleven such cases obtained from the recent records of the Children's Hospital, a very small number indeed and one not susceptible of statistical analysis.* (*a*) At eleven years of age one of these children had encephalitis, ran a temperature for two weeks, and was in bed a month. Since the illness the child has fallen behind and is now essentially a high-grade moron, although up to that time he was fully equal mentally to his contemporaries. (*b*) In another instance the child at three had an infection during which he was sleepy, had fever, had paralysis of the right side of the face with right external strabismus. Her early development was normal; she walked at one year, talked at two. Following the infection the child's mentality became distinctly lowered; she commenced to have epileptic attacks. She had convulsive attacks for a short time; her I.Q. was 60 and she was unable to go to school. (*c*) Another patient was in the second grade at the age of six. At seven she had double vision, convulsions, temperature of 102, lost consciousness, was spastic on one side of the body. She is now in a special class and has been there for two years without making any progress. (*d*) Another child of this series walked at seventeen months, talked at two years, then in the course of pneumonia developed a paralysis of the right side of the body, which was diagnosed by a distinguished neurologist as an encephalitis following pneumonia, localized in the right cortex. Following the pneumonia, his mental development has been very slow, so that at the age of fifteen he has a mental age of ten. It is not to be understood that every case of encephalitis in childhood is followed by feeble-mindedness, epilepsy, or the like. We have thirteen cases from the Children's Hospital in which there was encephalitis and then either full or almost full mental recovery. *It does not seem to me that the negative cases tell us much, since it is quite probable that the mental deficiency following encephalitis is dependent upon the site of the lesions and their extent, just as it is true that a hemorrhage of small size in the brain will be recovered from whereas a larger one leaves permanent residuals. Because a slap in the face does not break one's jaw it would be curious to argue that a punch by the fist of Mr. Jack Dempsey would need other factors to bring about this disastrous result.**

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* But a statistical analysis is superfluous since we have the "control" of the great bulk of normal children.

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* What has been stated about encephalitis apparently does not apply to epidemic cerebro-spinal meningitis. We followed seventeen cases which had been cared for at the Boston City Hospital, in which the diagnosis of epidemic cerebro-spinal meningitis was confirmed by physical examination, laboratory tests, etc. All of these children recovered perfectly, in the main, both physically and mentally. This is to be expected since the very serious cases of epidemic cerebro-spinal meningitis die, and in those who survive the lesion has been confined to the meninges, which are in no way concerned with mentality. The situation is entirely different in encephalitis in that the condition does not tend to be acute but tends to be chronic and involves the brain substance itself. The reason for the difference between epidemic cerebro-spinal meningitis and encephalitis, in so far as the fate of those children who get over the acute stages is concerned, is that epidemic cerebro-spinal meningitis is an acute condition involving a non-nervous part of the body, even though it is in definite relationship to the brain; whereas encephalitis tends to be chronic in its effect and course, and involves directly the central nervous system structure.

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Chapter VI

MICROCEPHALICS AND HYDROCEPHALICS

The number of these two groups at the Waverley School for Feeble-minded is too small to lend itself to any detailed study as to heredity or to biological factors. There were eighteen microcephalics at the Walter E. Fernald School for Feeble-minded in 1925. Microcephalus is a condition of unknown origin, manifested usually by the extremely small size of the head, so that the average microcephalic at the Waverley School has a circumference of from twelve to fourteen inches, the ordinary normal range being from nineteen to twenty-two inches. The larger number showed definite signs of organic brain injury, such as paralysis and spasticity of varied types. The mentality of the microcephalics ranges from the lowest-grade idiot to the low-grade imbecile. With the exception of two families, the family history of these cases is fundamentally negative. These two families are really one in that they represent two groups of Italians: Two sisters who are microcephalic and a maternal niece who is microcephalic. This group will be given in some greater detail in the family study section.

In one family the mother of one patient was insane at the "change of life," was away for a year and then recovered. Since microcephalus is very unusual and mental disease at "change of life" is very common, it is very unlikely that the two conditions have any biological relationship.

In another family the patient's father's sister was stated to be mentally deficient since birth, but four brothers and sisters of the patient are normal.

In another family the patient had so small a head as to be almost anencephalic. The family history of this patient is exceedingly interesting. He had one brother anencephalic; six of his brothers and sisters died very young; one cousin is anencephalic; and still another has spina bifida, so that in this family history defective development of the central nervous system appears very frequently. There is thus a likelihood that certain types of microcephalus are hereditary. Since the microcephalic do not mate the hereditary character has no possibility of reproducing itself.

It may be stated that there appeared to be two groups of the microcephalics: One a group in which the individual is extremely defective, with a head almost destitute of a forehead and brain, and usually associated with extreme spasticity and paralysis; the other, a group which may be called the "small-all-over group" probably corresponding to some type of infantilism, in which the face and head are fairly symmetrical but are exceedingly small, and are in harmony with the general smallness of the entire physique. The adult height of this "small-all-over" type is rarely beyond four and one-half feet. Their mentality ranges higher than the true microcephalic. They have often a naïve prettiness and undoubtedly are of different etiology than the true microcephalic, although in the hospital classification they are ranged with them.

There are only nine hydrocephalics in the Waverley group. The origin of hydrocephalus is both developmental, according to Dandy[1], and infectious. In certain instances the canals connecting the ventricle with the subarachnoid space do not seem to have completely developed. In others, due to infection there has been blocking of these canals. Of the nine cases there are two families in which hydrocephalus, or a similar condition, occurred in another sibling. Convulsions occur quite frequently, as would be expected in this group, and there is very much evidence of organic brain disease in general.

Hydrocephalus is not necessarily associated with feeble-mindedness. In fact, there are individuals with hydrocephalus in mild degree who do extremely well and who are as bright at least as the average. Necessarily in the case of those in the institutes, the injury has been greater than to those who remain in the community. In other words, they represent the extreme types of hydrocephalus. It is impossible to judge how many of our cases were of developmental and how many of infectious origin.

Whatever the causes of hydrocephalus and microcephalus, they are not related to the rest of feeble-mindedness nor to the other mental states. They represent particular injuries or defects, in the case of microcephalus occurring very early in the life of the individual, possibly of germ plasm origin. Hydrocephalus appears on the whole to be an injury or defect after conception and is probably not of true germ plasm origin.

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Chapter VII

SYPHILIS AND FEEBLE-MINDEDNESS

It has been generally accepted* that syphilis, in addition to its effects on the individual, is an agent in the creation of race deterioration. Its effect in bringing about miscarriage, abortion, and still-birth is so well established that it is an easy transition from the facts relating to these matters to the opinion that it is responsible for the damage which manifests itself in inferior and defective individuals. The existence of congenital syphilis is, of course, a matter concerning which there can be no possible controversy. The Wassermann reaction, the Hutchinsonian signs, and post-mortem examinations have for some time completely established the fact that individuals may be born who suffer from the transmission of syphilis by their parents to them.

From this to the opinion that syphilis also causes feeble-mindedness is a step which has been taken, and which appears almost unanimously in the earlier literature concerning feeble-mindedness. It has been accepted almost without question that, because a certain number of the inmates of hospitals for the feeble-minded have syphilitic parents, and because these feeble-minded individuals have positive Wassermanns and other manifestations of syphilis, that therefore, the syphilis is causative of the feeble-mindedness. This belief has been challenged recently by several writers. Thus, Haines[3], whose earlier writings indicated that he believed that syphilis and feeble-mindedness were associated on the basis of the study of an insufficient number of cases, in his later investigations states it as his opinion that syphilis does not cause feeble-mindedness, because in a study of reform schools he found no larger percentage of the defectives having a positive Wassermann than in the general population of the reform school.

Weiss[9] and Isgur[9], studying the mentally defectives in a New York institution, found only 2.7 per cent of positive Wassermanns in some 1,630 cases. This leads them to the belief that syphilis has not been proven as a cause of feeble-mindedness, and that the conclusion that it does has been uncritically accepted.

The Solomons[6], in their book, "Syphilis of the Innocent," say: "The relation of syphilis to feeble-mindedness presents a question that is not easily answered. It is obviously true that there are a certain number of congenital syphilitics who are feeble-minded because of destructive lesions or failure of development of the brain due to congenital syphilis. However, a congenital syphilitic may have a coexistent feeble-mindedness which is hereditary, that is due to the presence of feeble-mindedness in the family or caused by other conditions than syphilis."

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* See in this connection the textbooks of Tredgold, Stoddard, Ireland, and others. Amongst more recent writers Oscar J. Raeder[6] is quite emphatic as to this relationship and presents an interesting series of cases in which there is a graduation of mentality according to the order of birth. I can only say that Baeder's cases are carefully chosen and interesting but inconclusive.

The most comprehensive study of the subject has been made by Neil Dayton[2], acting as Director of Research in Feeble-mindedness for the Massachusetts Commission of Mental Diseases. In a series of papers he has made a thorough review of the literature, and an extensive and intensive study of the cases in the Massachusetts State School for the Feeble-minded at Wrentham, Massachusetts. He states[2], "A comparison between the incidence of congenital syphilis in mentally defectives and in non-defectives, shows only a slight margin of difference. In those mentally defective, congenital syphilis is present to the extent of 5.4 per cent. In those not defective, it is noted in 4.3 per cent of cases. The difference of 1.1 per cent is not one which would warrant a positive statement as to the importance of congenital syphilis as a cause of mental deficiency." (This difference can easily be explained, as will be shown in this paper, by the difference in social status of the mental defective and the non-mental defective.) Citing the statistics of a huge number of cases, he states, "From this study of the statistics it would appear that congenital syphilis is not of great importance as a causative factor in mental deficiency." Studying the congenital syphilitics at the Wrentham School, he states, "The accompanying table presents the summary of those cases in graphic form, and shows that in the Wrentham group the greater portion of the positive cases have other powerful contributing factors besides syphilis (heredity). In fact, only thirty of the sixty positive could be considered as resulting solely from syphilis. This method of approach reduces by fifty per cent the number of cases we have previously considered as caused by congenital syphilis. Only one conclusion is possible, and that is that syphilis is decidedly of less importance as an etiological factor in the production of mental deficiency than the statistics would indicate. Further, the presence of a positive Wassermann reaction in the feeble-minded is not conclusive proof that the mental defect was not caused by other factors than syphilis." The papers of Dayton are strongly recommended to those who would approach the subject in a thorough manner. It is by far the most important contribution on the subject of syphilis and feeble-mindedness that there is in the literature.

Another approach to this problem of syphilis as a cause of feeble-mindedness is to consider the fate of syphilitic children.

That is, to take the whole bulk and body of congenital syphilitics, and find out what proportion of the individuals are feeble-minded. Unfortunately, such studies have not been carried out in a comprehensive way up to the present time. The work of the Solomons does not indicate, according to their opinion, that syphilis produces feeble-mindedness in any great measure. (See their book, "Syphilis of the Innocent.")

David Lees, in a discussion of congenital or inherited syphilis, asserts that mental deficiency is not infrequent in congenital syphilitics, but gives no data on the subject. Carl Buster[1] gives 39 cases. Out of 14 of these, seven were considered imbeciles or idiotic, obviously an insufficient number and without any fundamental value.

Park J. White[10] and Veeder[7], in a study of 443 cases of hereditary syphilis says that 15.4 per cent showed mental retardation, but the number carefully studied is not stated, and the criteria of mental deficiency seem to have been rather vague. They state, "All grades of mental deficiency were counted, from idiocy to the higher grades described as backward in school, *difficult to get along with*, mental age several years behind chronological. The milder degrees of deficiency were far more common." There is no history of the parents given in these cases, and it is obvious that "difficult to get along with" may mean anything at all, and is not necessarily feeble-minded.

Many other papers appear in the literature, but they are not satisfactory because the number of cases is usually very small, and the groups are often selected out of classes of the population which might show feeble-mindedness irrespective of syphilis.

The pathological anatomy, post-mortem, of children with congenital syphilis and presenting mental defect, has not been made by Ranke, Kretschmer[4], Weil[8], and Wohwill[11]. Ranke's cases are entirely those of children who have died within a very short period of time after birth, or else cases in various developmental stages of intra-uterine life. Here he found the usual neurosyphilitic signs, which were to have been expected in children who apparently died of acute central nervous system syphilis. Development disturbances are also described by Ranke, but these do not seem to be in any way specific.

Weil[8] and Kretschmer[4] seem also to have confined their studies entirely to the very young infant or premature child dying of congenital syphilis. These cases are on the whole irrelevant so far as their bearing upon the problem of the relationship of syphilis to feeble-mindedness is concerned, because these children die as the result of an acute neurosyphilis, which it is obvious that the congenital syphilitic feeble-minded, so-called, do not have. The study of Frederick Wohlwill was more extensive than those previously cited. While he calls attention to what he calls developmental rests, the bulk of his paper is confined to the description of neurosyphilis of the ordinary type, with changes in the meninges, changes around the blood vessels, and changes in the parenchyma of the brain itself. *Developmental rests* so-called are held to be significant by this author, as indicating that syphilis, in addition to producing an inflammatory reaction, may also produce changes which interfere with the proper growth of the brain. The paper does not seem to me to be conclusive in this respect, because he has not made a control study of other infants dying early in life of other causes than syphilis. It is notorious that all types of changes occur in brains, which cannot at the present time be properly evaluated, and surely could not have been evaluated at the time that Wohlwill wrote. At that time, the newer stains for the study of neuroglia had not been developed. It does not seem to me that these and other papers of the same type on the pathological anatomy of congenital syphilitics dying early in life, and who had a fulminating neurosyphilis, throw any light at all upon the problem of the rôle of syphilis as merely hindering the growth of the brain. From our experience with adult syphilis, it seems more likely that syphilis acts on the *all or none principle* — either it produces inflammatory reactions of the brain and creates dementia, a mental disorder of a gross type, or else the brain is entirely spared. What causes the predilection of the spirocheta pallida for one brain, and allows another one to escape, we do not know at the present time, although speculation has concerned itself with the creation of a type of spirochete which attacks nervous tissue.

The Fifty-nine Waverley Cases

A factor of importance in the instance of syphilis in any group is the incidence of promiscuous sexual relationships. Among people of low cultural level, where prostitution is common, the incidence of syphilis is high; much higher than in those cultural groups where, though extra-marital relationships are obtained the prostitute is not the chief source of sexual relationship. By all accounts and by the most trustworthy statistics, the prostitute is the chief disseminator of syphilis. It thus becomes highly important to determine the type of family from which the syphilitic feeble-minded individual comes. If, for example, it can be shown in any such group that there is a much larger amount of feeble-mindedness in their families than would be expected, if at the same time promiscuous sexual relationships have obtained, then it becomes quite clear that the syphilis may have no relationship to the feeble-mindedness, but merely represents the amount of congenital syphilis to be expected in such a group. Furthermore, if it can be shown that neurosyphilis does not obtain to any great extent in the individuals in the hospital labelled "congenital syphilitic feeble-minded," the situation becomes quite clear that, on the whole, the feeble-mindedness is not related to the syphilis.

Family statistics of the fifty-nine cases called "congenital syphilitic feeble-minded" at the School for Feeble-minded at Waverley: Because data on these cases of an intensive kind was not easily reached and because there were a great many "unknown" among them, the study was conducted along relatively simple lines. In the first place, (*a*) an intensive physical examination was given each patient to determine the absence or presence of clinical signs of congenital syphilis and especially clinical signs of neurosyphilis. Lumbar punctures were done in those cases in which permission was obtained for such a study. Second, (*b*) a study of the families was made in order to determine the amount of feeble-mindedness among the siblings and the parents of the individual in the hospital. Third, a study was made of the sex life of the parents of the patient and also, whenever possible, of the individual himself in the hospital, because it is obvious that an individual may have a positive Wassermann reaction who has lived a promiscuous sex life before coming into the hospital.

(*a*) Clinical signs of congenital syphilis were found in 19 of the 59 patients designated as congenital syphilitics. We accepted as signs of congenital syphilis Hutchinsonian teeth, interstitial keratitis, nerve deafness, and signs of neurosyphilis, itself, such as immobility or marked irregularity of the pupil, changes in the reflexes, and changes in the spinal fluid. Of the 19 cases presenting evidence of congenital syphilis, the larger number (16) had negative spinal fluids. Three of our entire series had a positive spinal fluid. By a positive spinal fluid we mean a positive Wassermann, increased cell count and increased protein. Two of these three cases were definite cases of neurosyphilis, very much similar to adult neurosyphilis in appearance, and, in fact, representing the gradual occurrence of neurosyphilitic disease. The third had organic signs of neurosyphilis.

Of the other 40 individuals, i.e., those whom I say had no signs of congenital syphilis, there were many who had enlarged frontal bossed, or rather square head, or lymph glands in or around the elbow, but as will be shown later, among the individuals whom we group as the unclassified feeble-minded there are a large number also who had these signs, which indicate imperfect development; and which, as I have stated before, by no means indicate syphilis and, in fact, often enough are not found among the congenital syphilitics.

Three cases called congenital syphilis had organic brain signs, which I believe were not related to the syphilis. Of these three cases it was discovered that one had had meningitis when young; another came of a family in which difficult labor had occurred with each child, and this child was paralyzed right from the start of his life. He might have been included among the organic brain type of feeble-mindedness. The organic brain signs of the third were not traced to any known cause.

Of the 59 cases, five females had had a sex career before coming to the hospital. They were known to be promiscuous in their sexual relationships. One of them had borne illegitimate children. It is not at all improbable, in view of these facts and in view of the generally negative physical examinations in these cases, that these females were merely feeble-minded individuals who had acquired syphilis. It is noteworthy that none of the statistics dealing with feeble-mindedness and syphilis take into account the opportunities of the patient for *acquiring* syphilis.

Siblings of the feeble-minded syphilitics: (*a*) Of the 59 cases, the mental state of the siblings was unknown in 12 cases. This is not to be wondered at since in many cases these feeble-minded were illegitimate; in other cases they had been abandoned, were foundlings; and in still others they had come to the hospital and then their relatives disappeared from the scene. At any rate, the fact that in 12 cases the siblings were unknown does not load the statistics in favor of these families being of normal or high grade. The fact tends toward the other direction, namely — towards indicating that these were rather low-grade families. (*b*) In 15 cases there were one or more other feeble-minded siblings in the families of the Waverley patients. (*c*) In 26 cases the siblings were known as normal; (*d*) in six cases the feeble-minded patient was the only child. Thus, of the 41 cases in which it was possible for the stock to manifest itself in the creating of one or more feeble-minded siblings, there were 15 of such cases. Though the number 59 is a small one and statistical evaluation is on the whole difficult in so small a group, yet the extraordinarily large number of feeble-minded siblings cannot be without significance. If one contrasts these figures with the figures of the cretins, the Mongolians, and the spastics the difference at once becomes striking. In the case of the former groups the number of feeble-minded siblings is hardly more than one would expect. In the case of the so-called congenital syphilitic feeble-minded, the number of siblings who are feeble-minded is far greater than what one would expect.

This hereditary trend becomes at once strengthened by the study of the parents of the syphilitic feeble-minded. There were fifteen cases where the parents were unknown, which again does not load the statistics in favor of these parents being normal; but on the contrary, from what we know of social life, loads it in the other direction, namely — that they were abnormal, and probably low grade. In fourteen cases, there occurred definite feeble-mindedness among the parents of the syphilitic feeble-minded. In nineteen cases, the parents were definitely stated to be normal. In eleven cases, the parents were stated to be of low grade and feeble-mindedness was suspected. *Thus there occurred a tremendous amount of low-grade mentality and of feeble-minded mentality amongst the parents of this group of syphilitic feeble-minded.* Again, if one contrasts this with the familial situation of the cretins, the Mongolians, and the spastic or organic brain cases the difference is striking. In the former groups of cases there was very little parental feeble-mindedness. In this last group the amount is noteworthy. In other words, the number of feeble-minded to be expected from this group of people, *irrespective of any syphilis at all*, would be high if there is anything at all in the inheritance of feeble-mindedness. In fact, in the most of these cases if the Wassermann reaction had not appeared upon the scene as a method for discovering latent syphilis, syphilis would not have been expected and the onus of the feeble-mindedness would have been placed on heredity.

When we study the sex life of the parents of these syphilitic feeble-minded, the amount of promiscuity of sexual relationship at once explains the incidence of syphilis in this group. Of the 41 cases in which the sex life was determined, classified as to promiscuity and non-promiscuity, *fifteen cases of parental promiscuity were discovered.*

Several of these individuals were definitely known to be prostitutes; others had had illegitimate children; many had been arrested for sexual irregularities. We did not class under promiscuity those individuals whose sex life had merely been irregular; we only classed under this heading such lives in which the lack of sexual discrimination had been outstanding.

CONCLUSION

1. A survey of the literature shows that the incidence of syphilis among the inmates of institutions for the feeble-minded is slightly, if at all, greater than that of non-defective children.

2. Intensive study made of the inmates of the Walter E. Fernald School for the Feeble-minded shows that there are few signs of neurosyphilis among those labeled as congenital syph-

ilitic feeble-minded. In other words, direct evidence of the brain being involved is scanty.

3. A very large proportion of this group of feeble-minded come from families in which there is much feeble-mindedness; in other words, if there is a hereditary element in feeble-mindedness, it may be held responsible for a large proportion of the cases labeled congenital syphilitic feeble-minded.

4. The social stratum and the way of life of the parents of these feeble-minded would lead one logically to expect a large percentage of syphilis amongst their descendants, irrespective of the feeble-mindedness.

5. While it cannot be doubted that syphilis causes alterations of the brain, and thus produces *dementia* both in the adult and in the child, there is no proof at present that syphilis causes *feeble-mindedness.* There is nothing in the general appearance and the general reactions of the congenital syphilitic feeble-minded to distinguish them from the mass of the feeble-minded. Therefore, there is ground for the assertion that, at the present time, we can safely state that syphilis of ancestors causes little, if any, feeble-mindedness in descendants.

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Chapter VIII

THE UNCLASSIFIED GROUP OF THE FEEBLE-MINDED

In turning our attention to the unclassified group, it is necessary to point out that this is a very heterogeneous group of individuals, whose only basis of unity is the unity of our ignorance as to their pathology and etiology. The statistics of this group will be dealt with by Dr. Elkind in a following section of this paper. Without, then, going into anything approaching a statistical analysis in exactness, certain points of importance may be indicated.

1. Physical Findings of the Unclassified Group

Of some 535 of this group closely studied, there were 24 individuals so far below the average height that the term "dwarf" could be legitimately applied to them, for example, adult males who ranged under 4 feet 8 inches in height and adult females who ranged under 4 feet 4 inches in height. There were 17 individuals who were blind, 8 individuals who were deaf, 21 persons who showed the less obvious signs of organic brain disease, such as difference in reflexes, organic pupillary signs, etc., but who could not be further classified or linked up with any known cause or infection. There were 125 persons whose general physique presented so many signs of inferiority as to be classed as "general inferior individuals." This term needs a little amplification. We did not include many things that are ordinarily marked as inferiority, and have so been classified by most writers, as, for example, very poor posture, very bad teeth, strabismus, etc. We excluded strabismus because we did not know what its incidence in the general population is. We excluded poor posture because that is merely often a reflex of the mental state itself. Very few really feeble-minded individuals have good posture. The slouchy let-down that comes with a lowered mentality is very conspicuous, but it can be imitated by any one with a mimetic sense. By "general inferiority" we meant those individuals who are small in size, who showed bony and other deformities, who are markedly asymmetrical in origin, who would be conspicuous, in a word, anywhere, by the actual physical defect manifested in their skeletal and head asymmetry and their inferior size.

Thirty-three individuals had marked vasomotor disturbance, as manifested by cyanosed hands and feet. There were 44 persons who had marked cranial deformity, not approaching the true acercephalus, or tower head, and excluding, of course, the microcephalics and the hydrocephalics. It will thus be seen that physical inferiority is a very conspicuous accompaniment of feeble-mindedness of our institutional group.

2. INCIDENCE OF CONVULSIONS AND RELATION OF DEGREE OF FEEBLE-MINDEDNESS IN THE UNCLASSIFIED GROUP

We studied the incidence of convulsions among these patients, and attempted to discover whether there is any relationship between the incidence of convulsions and the general mental level of these patients. It is, of course, true that a good many children who have normal mentalities have had convulsions in infancy. Therefore, whatever statement we make concerning the incidence of convulsions relates of course to our group, and does not apply to the rest of the feeble-minded or to the normal population. I divided our feeble-minded into three groups, those of the lowest level up to the age of three or to a corresponding I. Q., those of a middle level up to a mental age of six or a corresponding I. Q., and those of a mental age of six upward, with very few ranging above nine. I believe that this is a better classification than the common one of idiots, imbeciles, and morons. First of all, it is a more convenient one, and second, it is more logical. Why give three different Greek names to different degrees of feeble-mindedness?

The following rable indicates the results:

	Convulsions		*No Convulsions*	*Total*
	Expected Number	Actual Number		
Lowest level	24.8	49	84	133
Middle level	40	35	178	213
Highest level	35	16	173	189

It will be seen by the table that the actual incidence of convulsions in the lower grades was about twice as much as was to be expected; in the middle grades it was about what was to be expected; and in the highest grades was less than one-half of what was to be expected. In other words, it is safe to say that at least amongst this sample, the incidence of convulsions had a relationship to the degree of mental deficiency. It is not assumed that this is a causative relationship. If one included the hydrocephalics, the microcephalics, and the organic brain types of feeble-mindedness, the incidence of convulsions would be much increased, and increased in favor of the lower mentalities. It is to be emphasized that these patients are not essentially what is to be classed as epileptics. In the most of instances, the convulsive states occur during infancy and early childhood, and then disappear or appear only at rare intervals. J. E. Middlemiss[4] states that although the causal relationship between epilepsy and dementia is comparatively negligible, the close association between the two conditions is of such universal recognition that it calls for further discussion. Epilepsy is more common amongst idiots than amongst morons. The convulsive fits of the aments are usually associated with convulsive fits early in the child's life. Mental arrests and paralysis of the limbs sometimes result from these fits. These convulsive disorders are not epilepsy, and are largely the physical expression of a subnormal cerebral development. It will thus be seen that Middlemiss's findings are very similar to our own.

3. GENERAL PHYSICAL INFERIORITY IN THE UNCLASSIFIED GROUP

The relationships of these three types of mentality in the unclassified group was studied in relationship to the instance of bodily defect, excluding from this consideration the dwarfs, the blind, the deaf, the microcephalics, and the hydrocephalics, and considering only the relationship of general inferiority as previously defined. Our table also includes the relationship of what we call negative physical examination in relationship to these three degrees of mental state. By negative physical examination, we merely meant no outstanding physical defect. Poor feet, poor posture, and the like, if not associated with any other defect, were classified as negative. The following table shows the results:

	General Inferiority		*Negative*		*Total*
	Expected Number	Actual Number	Expected Number	Actual Number	
Lowest level	14	25	38	36	62
Middle level	36	44	96	95	152
Highest level	39	22	104	109	165
					379

It will be seen that general bodily inferiority amongst the lowest mentalities was nearly twice as high as expected, the amount in the middle grades was slightly more than expected, and in the highest mentalities, it was a little more than half as much as was expected. It is curious to note that the expected number of negatives in this group was closely approached by the actual number of negatives found. Thus, general inferiority in this group is very closely related to the degree of mentality. At the same time, the rather contradictory finding is that negative physical states appear equally among all three mental groups.

Potter, cited by Davies[2], states that the hereditary cases were under-developed physically, as well as retarded mentally, while the non-hereditary cases showed only a mental retardation. This is not our experience. We did not, unfortunately, make a statistical study of this point, but we have records of many cases with marked physical defect, some to the point of grotesque defectiveness, amongst the cases with negative family histories. Nor do we find that the hereditary cases belong to any special level of the feeble-minded. It is true that idiots do not beget idiots, because idiots do not propagate. They are shut off from propagation by the severity of their defects, and so are excluded from further damaging the race. But there are high-grade morons, low-grade morons, and imbeciles in our family cases. It is our impression, however, that the morons predominate in the hereditary cases.

An interesting confirmation of this observation on the physical defectiveness of the feeble-minded comes from M. W. Cliff[1]: "The results of our observations in the feeble-minded have yielded little on which to base a theory as to basic factors involved. There has been much theorizing in this particular field, and the author felt that he would not be criticized if he declined to draw other general conclusions. The constant association of structural development with mental defect and mental impairment is a condition so obvious as to argue a more or less common basis. Further than this, it is impossible to go at the present time.

"To summarize our findings in general terms, we would state that the Roentgen examination of the feeble-minded shows a very high percentage of malformation and developmental defect of the skull, and in those cases associated with endocrine disturbance, there are, as well, marked changes in the process of bone development, and that recognizable changes in the bony structures of the sella turcica are relatively uncommon even in those conditions in which the pituitary gland is involved."

Neil Dayton[3], in his excellent survey of 3,353 retarded school children in Massachusetts[3], states that groups with the lower intelligence quotient tend to be under average height and weight. Groups with the higher intelligence quotient, that is the higher morons, tend to approach the normal population in height and weight. He states, amongst other conclusions, that there is an apparent relationship between (1) height and intelligence, (2) weight and intelligence. The overheight and the over-average weight groups have relatively more patients in the higher intelligence levels than the under-average height and the under-average weight groups. And furthermore, in the lower levels of intelligence, there are more children under average in height and in weight. In a more comprehensive paper, entitled Survey of Retarded Children in the Public Schools of Massachusetts, Dayton states, "However, when we consider the physical deficiencies, we find a larger number than even the most pessimistic portion of the "legend" has ever outlined. Gastrointestinal defect, chiefly teeth and tonsils, easily take the lead." (It will be remembered that we have excluded gastrointestinal defect in our consideration of the defectiveness of the feeble-minded.) "The next in order of importance is stigmata. Just what stigmata may mean has always been more or less of a question, as their exact relationship with mental defect has not been satisfactorily outlined. Defects of special senses come next, and are followed by circulatory, neurological, and skeletal defects.

"In general, the physical defects outline themselves as follows:

4 out of 5 have defect of teeth or tonsils.
1 out of 2 shows stigmata.
1 out of 4 has defective vision or hearing.
1 out of 6 has a defective heart or defective circulation.
1 out of 7 has a neurologic defect or disease.
1 out of 7 has a skeletal defect."

When it is taken into account that in our personal studies we have excluded such defects as poor teeth, poor tonsils, the ordinary stigmata, such as defective ears, a defective palate, or a defective heart, which are tremendously common amongst our patients, then it becomes obvious that the amount of physical defect amongst the feeble-minded is appalling. On the whole, it may safely be stated as a general proposition, that the feeble-minded are feeble-bodied. When one takes into account the cretins, the mongols, and the organic brain diseases as well, then the picture becomes entirely organic and the bodily defectiveness is as conspicuous or more so than the mental defectiveness. But even in the unclassified, whose etiology is not definitely known, who present no extraordinary mark of bodily disease, the picture of general defectiveness is the correct picture of the situation. That is, while the mental defect and the physical defect do not run necessarily parallel, there is, nevertheless, a tremendous load of physical defect amongst the feeble-minded which makes it possible to state that the whole organism is probably defective. It is results like this which make it impossible to conceive of feeble-mindedness as a Mendelian character or even as an ordinary hereditary character of whatever type.*

THE RIDGE SCALP OR RUGA TYPE OF FEEBLE-MINDED

In passing, I wish to point out a group of individuals who, so far as I know, have never been described in the literature. Among the lowest group in mental development is a very small number of individuals with coarse features, fairly good-sized heads, and fairly well-developed bodies, whose scalps are ridged in a curious way, so that there is a striking resemblance to a washboard. This group is to be especially studied and later described in more detail. The physical anomaly of the ridged scalp, in so far as my observation goes, is not seen amongst people of normal mentality. There are seven cases of this type at the Waverley school, two of whom were brothers, the rest occurring in isolated instances of feeble-mindedness in a family group.

4. RELATIONSHIP OF FEEBLE-MINDEDNESS TO MENTAL DISEASE IN THE UNCLASSIFIED GROUP

Before the statistical analysis by Dr. Elkind was made, I had reached certain conclusions about the relationship of feeble-mindedness and mental disease. The problem fundamentally was this, — Are the mental diseases, if they occur in an ancestor, say a father or mother, biologically related to the occurrence of feeble-mindedness in a descendant. Dr. Elkind's figures will deal with this question more in detail than I intend to do. This, however, may be stated. Years ago, when I studied the inheritance of mental diseases, I was first led to the conclusion that Dementia Praecox was in some way related to feeble-mindedness. Further study led me away from this conclusion, and I stated that Dementia Praecox had no definite relationship to feeble-mindedness, except that there were groups of the so-called feeble-minded who probably represented what might be called congenital Dementia Praecox, an observation made by Kraepelin. Our present studies substantiate the belief that feeble-mindedness and the mental diseases, for it is an error to consider mental diseases as a unit, have nothing to do with one another in a hereditary way. It is very interesting to note that in those cases where we were able to get a definite record from a hospital as to the type of mental disease from which an alleged insane parent suffered, we found that a very large proportion of those labeled as insane were really feeble-minded. In other words, in many instances (17) in which the lay records stated that the individual was insane and had gone to a hospital for mental diseases, the institutional diagnosis was mental deficiency, in some instances associated with a psychosis, in other cases not associated with a psychosis. Fully a third of the institutional cases, that is those cases in which we obtained a record from institutions concerning the parents, turned out to be feeble-minded rather than insane. Though statisticians state that one is unjustified in making conclusions about the unknown, it is at least possible that amongst the other cases recorded as insane, there were also cases of feeble-mindedness. Further, when one divides up the known cases of mental diseases occurring among parents according to diagnoses received from state institutions, one finds a scattering incidence of alcoholic psychoses, manic depressive psychoses, dementia praecox, general paresis, and senile dementia. From my own studies, as detailed in the Inheritance of Mental Diseases, and from a study of the literature recording such data, it seems to me that there is not an undue amount of feeble-mindedness amongst their descendants, and a study made in the reverse direction, as in this case, of the feeble-minded for their insane ancestors, leads in a general way to the same conclusion, that, on the whole, there does not seem to be any biological relationship which has been established between the various mental diseases and feeble-mindedness.

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* Investigations made by A. A. Cunningham tend to show that mental superiority is in more or less direct proportion to the degree of physical superiority. It might be better stated that physical inferiority and mental inferiority are in close relationship to one another.

5. HEREDITARY FEEBLE-MINDEDNESS IN THE UNCLASSIFIED GROUP

This is discussed by Dr. Elkind, and I shall leave the facts and the figures to him. It is perfectly obvious that there is far more feeble-mindedness in the siblings and ancestors of our institutional cases than would be expected. There can, therefore, be no doubt that at least in the institutional feeble-minded, there is much familial feeble-mindedness; in other words, there is hereditary feeble-mindedness. Dayton[3] has made a comparison between the number of cases with inheritance of feeble-mindedness in the non-institutional group with our group. It will be seen by his figures that there is twice as much feeble-mindedness in the heredity of the institutional group as in the public school group. This, I think, is exactly what one would expect. The institution groups, like our own, represent a collection of the worst families, necessarily, because defective families are not so able to care for defective children as non-defective families, or at least as less defective families. In other words, our groups are loaded toward the hereditary side by the social circumstances, and the amount of hereditary defect found in our cases is not an index of the true situation in feeble-mindedness.*

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Chapter IX

SOME SELECTED FAMILY GROUPS

These family groups have been selected from the hundreds available for detailed exposition for several reasons. Some represent what we call our "worst families." They are selected to show that even in these "worst families," collateral groups remain normal, and there does not seem to be anything like the widespread degeneracy, crime, etc., of the famous royal families of feeble-mindedness, the Nams, the Kallikaks, the Jukes, etc. In "The Inheritance of Mental Diseases," I have criticized, perhaps with undue severity, the type of studies represented by the Kallikak family[5] as non-representative of feeble-mindedness; and indeed I am extremely doubtful that they truly represent feeble-minded groups, for part of the picture is low cultural level, and the rest is due to an over-evaluation of normal intelligence which prevailed when these studies were made.

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* I cite other authors as to the incidence of hereditary feeble-mindedness in the non-institutional groups in the last section of this paper.

One family group is presented in which a fairly normal pair of parents gave rise to a family showing an extraordinary amount of feeble-mindedness, associated, in this case, with the rather remarkable phenomenon that all the children were breech births, that is, the normal position in utero was reversed, and the head born last instead of first. A few of many families are presented in which, without any known background or cause, one feeble-minded individual appears in a family tree otherwise normal. The pedigree of a "syphilitic" feeble-minded person is given as a type of the cases recorded in the previous chapter, to raise the question of syphilis versus familial feeble-mindedness. Some cases of familial organic disease are presented to round out what I believe is a far more typical picture of familial feeble-mindedness than most of the literature would lead one to believe.

Our family studies do not lead to the same extreme pessimism and fear for the race which permeates the classical family studies. Even our "worst" families have good collateral branches, and in most cases the main contribution of a family has been normal, even though one or more members have been low grade. In my opinion, there has been too much pointing with alarm, and too little sober investigating for the social understanding of the problem of feeble-mindedness. I cannot resist making the statement that the statistical necessities imposed by Mendelian ratios have not helped the situation at all.

In the Third Annual Report of the Eugenics Survey of Vermont[7], is a study which corroborates my point of view, that even amongst the bad families, decidedly better branches appear who offset in a measure, at least, the poorer groups. "What is most important socially as well as scientifically, a really high degree of excellence of character and achievement has been brought to light in both the "bad" and "better" branches of the family of these two defective people. The good branches of otherwise low-grade stocks are thus seen to be capable of making an important contribution morally, intellectually, economically, and socially to the same communities which are at heavy cost to support delinquent and deficient individuals from the same stock. The harm done by one group is thereby to a considerable degree offset by the benefits contributed by another of the same ancestral origin."*

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* (Note:) I have omitted the usual family charts. No one really studies them, and they have no value as art.

FAMILY I — THE LAND . . . . FAMILY:

This record concerns one of the "worst families." We have definite institutional records of two generations, with evidence of feeble-mindedness in three generations. The patient at Waverley is one of twelve brothers and sisters. His mental age is eight, and he is graded as a moron. He has two older sisters who were at the Wrentham State Hospital. One of these had three illegitimate children, who are at the Wrentham State Hospital. There is a brother who is of low-grade mentality; his exact mental status is unknown. He has never made a living for his family. He is married and has five children. The mother of these five children is of better mental type than her husband. One of the five children is definitely feeble-minded; two have been diagnosed as not deficient, and the other two as of "borderline" mentality. Another sister of our patient is at the Wrentham State School, and is a moron. A brother has done fairly well as a farmer, though of low-grade mentality, and has three children who are said to be normal. A brother is a patient at the Waverley School, and has a mental age of nine. Another patient has a record of minor delinquencies; his mental age is ten. A sister is a patient at the Belchertown State School for the Feeble-minded, and is a moron. One brother lives at home with his parents. He can do good work under supervision. He is honest, but is known as "simple-minded," and from all accounts is a moron.

The parents of this family of twelve people, practically all of whom are feeble-minded, are both of low-grade mentality. *The father* was born in Cape Cod, was never able to learn in school, and has never been able to make a living. It is suspected that he had incestuous relations with his children. The father has a brother and a sister. The brother has been a social problem. He married a normal woman. Of their three children, two are definitely considered of high grade; the third is not feeble-minded, but a delinquent. The father has a sister concerning whom little is known. She is described as being peculiar and unsocial, but not feeble-minded.

The mother is able to do simple housework under direction, and has served a sentence in the State Prison for Women for adultery. *She has three sisters, all of whom are of normal mentality. Two have no children. The third went to high school, and has four living children, all of whom are of average mentality and do well in the community.*

The maternal grandfather and grandmother were born in Cape Cod. Nothing is known as to their actual mentality. They were self-supporting and got along well. From the standpoint of their career, they were not feeble-minded.

There are contradictory reports about the furthest ancestors of this group on the paternal side.

Nevertheless, it seems clearly established that the father and mother were of low-grade mentality and probably of the moron type; that they lived in very adverse social circumstances; and that the children were brought up in a home so bad in its influence that the Society for the Prevention of Cruelty to Children intervened. However, collateral branches of the family have done well, and even with the extreme involvement of all the members of the group, no really serious criminality occurred. There was none of the widespread degeneracy noted in the families which have been so conspicuous in the feeble-minded literature. It is also noteworthy that this whole family is of a high-grade moron level. This, I believe, characterizes those groups in which large numbers of a group are feeble-minded. *In other words, the nearer the approximation to normal, the wider-spread the involvement of a family group.* I believe that this has a bearing of theoretic and practical importance.

FAMILY II — THE ABB . . . FAMILY:

This family consists of three brothers, one of whom is at Waverley, one at the Belchertown School for Feeble-minded, and the third died at the Wrentham School for Feeble-minded. These three, who are typical feeble-minded of moron type, have a sister who is eleven years old, in the seventh grade in grammar school, and apparently above the feeble-minded level.

The father of this group was not feeble-minded, but when he was about seventeen years of age, he developed a psychosis which was diagnosed at the Worcester State Hospital as dementia praecox. He made a partial recovery and got married. His brothers and sisters are six in number. The oldest is an irresponsible woman of low mentality. Her husband is alcoholic. Of their seven children, all have been slow in school, are apparently just above the feeble-minded level, though on the whole they have been socially adequate. The second sister is apparently normal, married, has seven children, four of whom are normal. Two other sisters died of convulsions in infancy. The third, a brother, was poor in school, but has been socially adequate, married and has no children. The fourth sibling, a male, was backward in mentality and committed suicide. The fifth died at seven years of some infection. Two others died early in life.

The mother of this group was feeble-minded and was burned to death. She had one sister and three brothers. The sister is of average mentality, married and has two boys, one of whom is in college and the other works for a well-known printing concern. A brother, who, so far as we can find out, did not go very far in school, has three children, however, who are normal. Another brother was a teamster, alcoholic, had eight children, all of whom did well, are up to grade for their years, with one case of minor delinquency which was temporary. Another brother of the mother went to the eighth grade in grammar school, and has three normal children. *Thus the mother of our three feeble-minded patients presents the only defectiveness on her side.* The generation represented by the numerous children of her brothers and sisters have an excellent record, while three of her four children are feeble-minded.

The paternal grandfather, though of normal intelligence, was alcoholic. Toward the last five years of his life, he was in the Worcester State Hospital at various times with a psychosis declared to be due to arteriosclerosis and alcoholism, although certain aspects of the case resemble manic depressive psychosis.

The maternal grandparents seem, on the whole, to be normal.

When the entire family picture is surveyed, the third generation, except for the feeble-minded family itself, seems to be of average mentality and of average social adequacy. It can definitely be stated that feeble-mindedness is not appearing as a character of the rest of the group. It is too soon for one to say that mental disease will not appear. It is our opinion, however, that mental diseases have, on the whole, no hereditary relationship with feeble-mindedness. The feeble-minded branch was committed, a eugenical measure of great value. Delinquency of any major kind is entirely absent in this family group, and gross social inadequacy is absent. The minor delinquency present is of no fundamental consequence, and might easily be accounted for by other factors besides the feeble-mindedness.

Family III — The MAH . . . Family:

This family group presentation centers around the question — congenital syphilis or heredity, which best accounts for the feeble-minded patient? The patient, whose Wassermann is positive and who is, therefore, called a congenital syphilitic, is an imbecile at the Waverley School. She is of Swedish descent and is one of seven children, four of whom are definitely normal and have normal children. Of the other three, one boy is a feeble-minded patient at the Wrentham School; the second, a girl, is a patient at the Waverley School; and the third is the patient who has the positive Wassermann. None of her brothers and sisters has a positive Wassermann.

The father and mother of this sibling group: The father is sixty-seven years of age, intelligent though fanatical about religion. He has three brothers. The eldest was alcoholic and had three feeble-minded children, two of whom are in Sweden, and one is a patient at the Massachusetts State Hospital at Westborough. The record from this institution declares her to be a low-grade imbecile. This brother had three other children, who are said to be normal mentally. One brother's whereabouts are unknown; another brother was alcoholic when a young man, married, and has ten children who are said to be well and very intelligent, are declared to be college men and women.

The mother, who died at fifty-four, was of good health and good mentality. She had four brothers and sisters, all of whom were normal with normal descendants.

The paternal grandparents are said to have normal mentality, but few details are given about them.

The maternal grandparents were Swedish, of normal mentality.

Thus, there seems to be nothing on the maternal side to account for the deficiency. On the paternal side, there are three first cousins who are mentally deficient. The rest of the cousins are normal. There seems to be no explanation of the appearance of feeble-mindedness in two of the third generation of this group. Certainly the positive Wassermann in the case of the patient at Waverley is very likely accidental and has no relationship to the feeble-mindedness. This family tree, we believe, is also more typical of feeble-mindedness than the continuous occurrence of feeble-mindedness in family groups.

FAMILY IV — THE MAC . . . AND CAP . . . FAMILY:

This is an account of the family mentioned previously, wherein there seems to be a hereditary microcephalic trend. The patient from whom this study starts is at the Waverley School for Feeble-minded. He was born with a very small head, was never able to walk, talk, or sit up, and the examination at Waverley shows that he has a typical microcephalic head, which is 12.4 inches in circumference. He has a mentality in the very lowest idiot groups, and is unable to walk, talk, or even to sit alone. He is one of three brothers. An older brother was at the Boston Children's Hospital. Their diagnosis is microcephalus and bilateral talipes equino varus. An x-ray taken April 4, 1924, shows a skull with an extremely small cranial vault with a marked prow-shaped occipital region. There is some suggestion of an anomaly of the second and third cervical vertebrae. The other brother, who is now one year old, has a very small head, with talipes equino varus. However, he is not at present diagnosible as a typical microcephalus, as he is able to sit up and has eight teeth at one year of age. It is impossible to say what his future development will be.

The father of these three children is an Italian, normal in health, normal mentally, and in physique is a typical sturdy member of his race.

The mother has syphilis, went as far as the seventh grade in grammar school, and is evidently of low average mentality. However, she is capable and does her best with her very difficult family. She is one of eight children, all of whom were well *except two sisters. These two are microcephalic cases. Both are at Waverley.* They presented the classical picture of microcephalus — small head, idiot, paralytic, and untrainable.

The paternal grandfather and grandmother present no unusual features in their history. There are a number of uncles and aunts on both sides of the family, with plenty of cousins on both sides, who are normal.

The maternal grandfather and grandmother, representing the first generation, present no unusual picture mentally or physically, except that the father was rather inclined to be lazy but good-natured and intelligent. The mother, who died of shock at about fifty, was a mid-wife, hard working, and with no apparent mental or physical defect.

Thus, microcephalus appears in two generations, involving two members of each family. There is some question of its relationship to syphilis, but whatever studies have been done in microcephalus do not prove that it is of syphilitic origin, although this question has been raised from time to time. Fortunately for the social welfare, the individuals who show the microcephalic trait in its well-evolved form never have children, although an ardent biologist might well regret this since the laws of its transmission might be cleared up if conjugation were possible.

FAMILY V — THE MEM . . . FAMILY:

The following cases have presented familial blindness with feeble-mindedness, possibly due to syphilis, since each of these patients presented a picture which may be linked up with interstitial keratitis, which, as is well known, occurs in syphilis. They are of Armenian origin. The patient under consideration is nine years old, congenitally blind, hearing good, has automatic movements; the mental level cannot be ascertained because of lack of co-operation. He is undoubtedly an idiot. This patient had six brothers and sisters, one of whom is at the Perkins Institute for the Blind. The mental age of the last mentioned is above the feeble-minded level, but his conduct is extremely troublesome and represents defect in his unteachableness. A brother and sister died early in infancy, both of whom were blind. There are two half brothers, of the same mother and another father. One of these half brothers is at the Waverley School for Feeble-minded and is a blind idiot. The other, who is nine years old, is blind and dumb, though he seems to hear, and rates in the lower imbeciles.

The father of the first five children died of syphilis.

The mother is being treated for syphilis, is of average mentality, and is not blind. She married a second time. This man was the father of the last two blind children. Unfortunately, he also has syphilis, is well otherwise and of good mentality. The family history indicates no other cause for the blindness or the feeble-mindedness.

The paternal grandparents have a normal family history, and the father's brother and two sisters are normal.

The maternal grandparents by all accounts have been normal, and the mother has one brother and two sisters who are well, and there are three children descended from the brother who are normal.

Thus, there is the occurrence of a large amount of blindness and mental deficiency in one generation of a family. The only possible environmental etiology is syphilis. Of hereditary etiology, there is no hint in the family tree.

FAMILY VI — THE SOR . . . FAMILY:

The SOR . . . family, of Anglo-Saxon American stock, presents two cases of congenital organic disease in two siblings of an otherwise fairly normal family. One of the two patients is at the Waverley School for the Feeble-minded. He was born at full term, had normal delivery, weighed eight pounds at birth, was breast fed, and walked and talked at sixteen months. At eighteen months, he fell and struck his head, and was in a dazed condition. Three months later the patient cried a good deal as though in pain. He lost the use of his arms and then his legs became affected. He grew worse, until he could not sit up alone. When he was laid on his back, he cried. He was in the Massachusetts General Hospital and the Children's Hospital; Wassermann and spinal fluid were negative. There were no convulsions. When admitted to Waverley, he was very low grade mentally. He has, however, improved, has become tidy in his habits, can discriminate in taste and sound, and is interested in other children. He had convulsions during the year 1921; mentality, imbecile. He has a sister who is now, or was at the time of the examination, one and one-half years old, cannot sit up; had her first tooth at one year; legs are now rigid, turn in, and are thin in proportion to the trunk. She was normal up to one year, but is becoming like the patient at Waverley. She has been treated at the Children's Hospital; their diagnosis was spastic paraplegia with feeble-mindedness. These two children have five brothers and sisters. The eldest is thirteen at present, is being graduated from the junior high school, is a well-nourished, tall, well-built boy. The next is a girl, twelve years old, in the sixth grade. She is well and normal. The next is a girl, eight years old, in the second grade, who is well and active. The next, a girl six years old, is attending kindergarten, and is developing normally. The last is a boy, three years old, who is somewhat slow in talking, but is active and well.

The father of these children is a man of forty-nine, born in Canada, a carpenter, showing good average mentality and personality. He has two brothers and two sisters. One aunt is said to be nervous; the other is said to be well. The two uncles are well, and are laborers. The children of these uncles and aunts are well and normal.

The mother, born in Massachusetts, went as far as the first year of high school. She was twenty-nine years of age when the first patient was born. She is tall, robust and healthy, and presents no evidence of mental disease or feeble-mindedness. She had two brothers and two sisters. One of the brothers died in infancy; the other died of heart trouble. He had no children. The sisters are well, married, and the children of these sisters are well and normal.

The paternal grandfather is ninety years of age, is a blacksmith, is temperate and of good mentality. *The grandmother* died at fifty years of age. She was a school teacher. The cause of her death was cancer. Evidently her mentality was normal.

The maternal grandparents are living, are stated to be ignorant but well. The grandfather is a farmer, and the grandmother an adequate housewife.

The development of the spastic paraplegia with feeble-mindedness in these two patients cannot well be explained. Certainly there is nothing in their inheritance to account for it. Nor does any known environmental cause adequately explain the failure of development of the brain and cord. A biogenesis in the Gower's sense is the only explanation.

FAMILY VII — THE NICK . . . FAMILY:

Of great interest is the NICK . . . family, of mixed American Anglo-Saxon and Irish-American type. The generation that is in hospitals, and of which three are at the Waverley School, number thirteen, the last three by a second husband of the mother. *The outstanding feature of these thirteen pregnancies is that all were breech births and difficult.* There were six deaths, three at birth, and two miscarriages. Of the surviving children, the following is the history:

First, a patient at Waverley, is a high-grade moron. He was finally paroled from Waverley, and is now working and doing well. The second is a patient at Waverley, a high-grade moron girl. The third is in the community but in a special class. He was examined at the Waverley School and rated definitely a moron. The fourth, a girl, is in the fourth grade in grammar school, is backward and a moron. The fifth, a boy, is lazy, does very poorly in his studies, is in a special class, and is undoubtedly a moron. There is one surviving child of the second marriage, who is also a breech-birth. He is only fifteen months old, but is not walking or talking, and shows marked backwardness.

So far as can be discovered by a study of the generations that preceded, there is no hereditary factor for the feeble-mindedness. *The father*, American born, died at forty-one. He graduated from grammar school, was a conductor on the railroad, and while he occasionally displayed a violent temper toward his numerous and difficult family of children, nothing indicates abnormal mentality. The brothers and sisters of the father, who number four, are well. One has three children who went through high school. Another has one daughter who is a saleslady. Another has a son who went to high school, and a daughter who went to Radcliffe College.

The mother went to the second year in high school, was very adaptable, respectable, and in no way abnormal. On her side, there were five brothers and sisters, all of whom are normal and intelligent. One of the sisters has three daughters who have graduated from high school. Another has three children who have done well in school and in industry. None of the cousins of the patient's family is in any way abnormal. In other words, here is a family group of whom all the siblings are defective; yet neither on the parental or collateral sides is there any evidence of defect.

The paternal grandparents present no unusual factors. The grandfather is still living, a seaman. The grandmother is also living, and is well.

The only factor of any importance is the remarkable incidence of breech births with difficult labor. Nevertheless, there is no evidence that any injury was inflicted on these children at birth. *That two normals shall produce all feeble-minded is unusual.*

FAMILY VIII — THE MUR . . . FAMILY:

This family is cited because there are present normal and defective children in one generation, without any very definite hereditary background (and with no definite cause for the feeble-mindedness). There are two patients at the Waverley School for Feeble-minded, two sisters. One was full term, normal delivery, was difficult to nourish, very slow in development, and is now a low-grade moron. The other sister, one of twins of whom the mate died, was small at birth, very backward in development, and is now a low-grade moron. There are five other brothers and sisters, four of whom are definitely normal, the normals being an older brother and sister and a younger brother and sister. One brother died at seven, was a patient at the New Hampshire State Hospital for Epileptics, but was definitely feeble-minded, so that it is very likely that so far as our studies are concerned, the feeble-mindedness is more important than the epilepsy. Thus, in this generation of eight children, three were feeble-minded, and five normal.

Concerning the father and mother of this group, there does not seem to be anything pathological. Both were born in Ireland, and had education enough to read and write. *The father* is a gardener, steady in his habits, having worked on the same estate for twenty-five years, is not very energetic, but is a man of good habits and not defective. He has two sisters, one of whom is single and a domestic. The other has one boy and three girls, who are well and normal.

The mother is characterized as an ignorant but hard-working woman, worn but not sickly, and able to handle a household well considering her limitations. She had eight brothers and sisters, all of whom are declared to be normal, on the basis of a long acquaintance, by the family physician. There are thirty-two descendants of these eight brothers and sisters, all of whom are well, with no cases of feeble-mindedness or epilepsy.

The history of the *paternal grandparents* is very meager. The grandfather and grandmother were farmers in Ireland, and died of old age.

The family tree of this group, except for one branch, would compare favorably with that of the average family in the community. There has been no delinquency, no alcoholism, and no pauperism. Yet, unaccountably, in one generation there appear three defective individuals, born of the same father and mother as five normal brothers and sisters. Such cases as the above can be multiplied many times in our records.

FAMILY IX — THE BACC . . . FAMILY:

I now cite a few families in which there was just one case of feeble-mindedness. The BACC... family is an Italian group. The patient at the Waverley School was the last of a family comprising five other brothers and sisters. He was of normal delivery, breast fed. When fifteen days old, he had whooping cough and pneumonia. He was very nervous and had jerky movements after his illness, described as chorea. At eighteen months, he had his neck glands lanced, and after that the spasms ceased. He is very backward, is unable to walk or talk; in other words, is an idiot of low grade. The oldest of his brothers and sisters went through grammar school, is married, and has three children, all of whom are normal. Another sister went through high school, and has a baby six months old, who is normal. Still another sister went through grammar school, and teaches in a trade school. A brother, unmarried, who went through high school, and two sisters, who died of measles at the age of four and two, are said to be normal. Another sister is at present in the third year of high school.

The father and mother of this family are Italian born, well educated, industrially self-sufficient, and provide a very good home for their children.

The father has a brother and a sister who are well educated. There are nine descendants of these two individuals, who have at least gone through grammar school, several have been in high school, and a few have had a college education.

On the maternal side, there are a brother and a sister, who are normal, and have what is described as "fine families," with some excellent musicians, and all with sufficient education.

FAMILY X — THE FASP . . . FAMILY:

The FASP... family is of Anglo-Saxon Scotch-Irish ancestry, and presents the sporadic occurrence of feeble-mindedness in an otherwise normal family. The patient is at the Waverley School for Feeble-minded, is the last of a long series of children. He was full term, normal delivery. Somewhere in infancy, he fell out of a carriage. Later, it is stated, the child became ill with meningitis, and after the illness "went back to infancy" in development. The mother and father were away in England at the time, and the details of the illness as it developed in the patient are vague. At any rate, the patient at the present time shows no definite signs of organic disease, but is definitely an imbecile. This patient has eleven adult brothers and sisters, so that a sufficient length of time has elapsed to discover whether or not other disease developed in this family. The eldest brother is forty, was graduated from grammar school, and is now a baggage-master on one of the railroads; he has no children. The next is a daughter thirty-eight years of age; she went through grammar school, worked as salesgirl, has two children, who are said to be well and normal. The next daughter, thirty-seven years of age, was graduated from high school, was a public stenographer, is well, and has two normal children. The next, a daughter thirty-five years old, went through grammar school, has always been in good health, and has two normal children. The next, a daughter thirty-four years of age, was graduated from grammar school, has always been in good health, and her children, two in number, are normal. The next, a son thirty-two years of age, went through grammar school, is a baggage-master on the New Haven Railroad, and is normal. The next is the patient. The next, a son thirty years of age, went through grammar school, is a buyer in an important industrial organization, is well and temperate. The daughter, twenty-eight years of age, is a grammar school graduate, and is a telephone operator. The next son, a grammar school graduate, is on the Marine Shipping Board. The next, a daughter, was graduated from grammar school, is somewhat nervous, and is employed as a filing clerk.

The father and mother of this large family are, on the whole, normal. They had elementary education. *The father* had tuberculosis for a time, but has recovered; he is sixty years of age. There are three living brothers and sisters on the paternal side, who are well.

The mother died at fifty-one of pneumonia. There is no history of any abnormalities. Her family is not so well known, but all are recorded as well. There is no feeble-mindedness amongst their descendants.

The paternal grandparents died early in life, but there are no abnormalities recorded.

This is the history of a family average in every way; on the whole, an asset to the community.

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Chapter X

SOME STATISTICS OF FEEBLE-MINDEDNESS INCLUDING ITS INHERITANCE

By Henry B. Elkind, M.D., *Medical Director*
MASSACHUSETTS SOCIETY FOR MENTAL HYGIENE

The material selected for statistical analysis is made up of the clinical records of the Walter E. Fernald and the Wrentham State Schools.

Dr. Myerson personally examined the patients whose clinical records furnished our data from the Walter E. Fernald School. His examinations confirmed, with few exceptions, the diagnoses at the school. Where there were differences, they were not as to the feeble-mindedness of the inmates, but in which clinical class they more properly belonged. In the field work he was assisted by Miss Hannah J. Smith who later assisted me in gathering the data from the clinical records of the Wrentham State School. Miss Smith also proved of invaluable assistance in the various statistical procedures.

The clinical records of the two schools were studied under somewhat diverse conditions. At the Fernald School only summaries made from the clinical records were available, while at the Wrentham School direct reference to the records was made at the outset. This accounts for the fact that we are able to present more data from the Wrentham School than from the Fernald School, and also that in certain instances comparisons between data for the two schools cannot be made.

At the Fernald School approximately two-thirds of the resident population was studied, while at the Wrentham School the total admissions for six years, beginning with 1920, were studied. This difference in set-up must be always borne in mind when comparisons are made between data of the two schools. Where the resident population is studied, as at the Fernald School, we gain a picture of only a part of the admissions to the school and that part whose chances for return to the community have on the whole been found to be poor. The more favorable cases have been allowed to leave the school either on visit, on parole, or have been discharged outright. A difference in clinical picture also occurs when one studies the resident population instead of admissions. Those cases tend to be retained which more often require custodial care, such as the mongol, the cretin, and the microcephalic.

Certain other selectional influences affect the data of both institutions about equally; for instance, the method of admission. With the exception of those children who come to the schools through an order of the Probate Court — and these are a minority of all admitted — only those for whom application for admission has been made who are in the opinion of the Superintendent in urgent need of institutional care, are admitted. This means that only those cases where there is a serious community or family problem are permitted to enter. Social and economic conditions are uppermost, as one can see from Table I. The fact that there is a preponderance of females among patients admitted because of immoral background or for a (Court) delinquency makes this point more evident.

It is such important selectional influences as noted above, which most seriously affect data gathered from the clinical records of these schools and which make it difficult to draw inferences for the whole feeble-minded population in the community. No inference therefore should be made for the whole feeble-minded population from such data as ours unless it has been compared with data gathered from studies of the feeble-minded who have never been inmates of a training school.

At the Walter E. Fernald State School 845 cases (about two-thirds of the resident population at the time of the study) were analyzed. At the Wrentham School 983 cases were studied, a total of all cases admitted for the first time to the School for the six years beginning with 1920. (There were so few readmissions during this period that they were not considered in this study.) At the Walter E. Fernald State School the males predominate, there being 56 per cent males and 44 per cent females; at the Wrentham School the females predominate, there being 58 per cent females and 42 per cent males. This difference in sex distribution is not important, the Fernald School having more male beds available and the Wrentham School more female beds.*

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* We do not mean here that a sex difference as to admissions as a whole does not exist; for it does — the females tend to predominate. This has been the case for many years, particularly since the moron has come to be better understood. What we refer to is that the sex difference here noted is largely due to an administrative factor.

TABLE I. — *Situations bringing about Commitment to Wrentham State School — 1920–1925, inclusive*

Situations bringing about commitment	Patients					
	Both sexes		Male		Female	
	Number	Per cent	Number	Per cent	Number	Per cent
Number of Patients	983	—	417	—	566	—
All situations*	1,024	100.0	434	100.0	590	100.0
Economic	39	3.8	18	4.1	21	3.5
Sickness at home	11	1.1	4	0.9	7	1.2
Immoral background	88	8.6	23	5.3	65	11.0
No home	72	7.0	32	7.4	40	6.8
No desire of parent	49	4.8	20	4.6	29	4.9
Child difficult care	448	43.7	225	51.9	223	37.8
Delinquent, court	201	19.6	60	13.8	141	23.9
Others	90	8.8	41	9.4	49	8.3
Unknown	26	2.5	11	2.5	15	2.5

* Some cases had two or more situations bringing about commitment. This doubling is of no statistical importance because it amounts to only 104 per cent. $\frac{(104)}{(983)}$.

Definitions:

By "economic" situations: Unemployment, under-employment, desertion leading to financial stress, and similar situations. Does not include illness as a cause of economic difficulty.

By "sickness": Usually illness of parents.

By "immoral background": Conditions in the home encouraging immorality in the children.

By "no home": Parents or relatives could provide no home, or where death removed the mother and a home had to be found and none could be found except an institution.

By "no desire of parents": Where parents could provide and care for the child where the child was not exceptionally difficult to care for, either because of physical or mental handicap, yet the parents did not wish the inconvenience.

By "child difficult care": Where the child because of either physical or mental handicaps or both, was a trying problem for care under average home conditions; where the child was a contaminating moral influence in a home of average moral status.

By "delinquent, court": Where the patient had a definite court record not necessarily leading to commitment to a school for the feeble-minded.

"Others" and "Unknown" are self-explanatory.

It must be admitted, of course, that the results of this table represent the judgment of the persons analyzing the case-record material. Nevertheless, the picture it depicts is interesting and verifies a common impression among experts in an approximate quantitative manner.

It is also interesting to note an important sex difference. Females are more frequently admitted because of situations predominantly anti-social: "Immoral background" and "delinquent, court."

INTELLIGENCE QUOTIENT

Distribution by intelligence quotient of our Wrentham series (TABLE II) will be of interest because 9.5 per cent of the patients admitted were found to have I.Q's of 70 or over. Most of these are borderline cases and were considered deserving of institutional care. Very often the borderline case is as serious a community or family problem as the frankly feeble-minded case. The sex difference in this group is not statistically significant, though one would expect a preponderance of females here.

Analyzing the other groups from Wrentham we note that there is a statistical significance in the sex distribution in the moron group, the females predominating. Unquestionably this is due to the fact that social conditions play such a large part in the admission of patients to the Schools.

We do not have comparative material from the Fernald School and the Institutional Census for 1923 does not give exactly comparable data. In this Census the Massachusetts admissions for 1922 (totalling 322 admissions) were found to be approximately, for males: 11 per cent idiot, 29 per cent imbecile, and 60 per cent moron; and for females: 15 per cent idiot, 32 per cent imbecile, and 53 per cent moron. Comparing these figures with those in Table II for Wrentham, we find considerable disagreement. In the first place, the moron groups by sexes differ not only in their sex distribution but in their magnitude. We find the number of morons admitted to the Wrentham School significantly less than were admitted to all of the State Schools in Massachusetts in 1923. As to why there are these two differences, the one in sex and the other in the number of admissions, is something we cannot explain. It should, of course, be borne in mind that the United States Census figures are those for one year and it may have been an exceptional year.

TABLE II. — *Distribution by Intelligence Quotients of Patients admitted for the first time to Wrentham State School.—1920–1925 inclusive*

INTELLIGENCE QUOTIENT Groups*	PATIENTS					
	Both sexes		Male		Female	
	Number	Per cent	Number	Per cent	Number	Per cent
Total . . .	983	100.0	417	100.0	566	100.0
0–29 (idiot) . .	177	18.8	87	20.8	90	16.5
30–49 (imbecile) .	285	28.7	129	30.9	156	27.7
50–59 60–69 } moron . .	181 209	18.2 21.1 } 39.3	80 64	19.2 15.3 } 34.5	101 145	17.3 25.8 } 43.1
70 + borderline + .	95	9.5	45	10.8	50	8.6
Unknown . . .	36	3.6	12	2.8	24	4.1

* These groupings differ slightly from those of the American Society for the Study of the Feeble-minded, which are

0–24 Idiot
25–49 Imbecile
50–69 Moron
70 + Borderline +

This difference in this table is of no or very slight importance.

CLINICAL GROUPS

The two school populations were found to fall into clinical groups as shown in Tables III and IV, with the greater number in both schools falling in the unclassified group. There are differences between the diagnostic schedules used in the study of the two institutions but these are not of sufficient importance to disturb significantly the distributions. There are more cretins, mongolians, and spastics reported for the Fernald School, probably an effect due to the fact that at this School the resident population was studied. Studying each schedule by itself, there is a statistically significant fact noted in both, a sex difference among the congenital luetics, showing a definite preponderance among females. This result is what one would expect, considering the circumstances surrounding their admission.

THE COLOR FACTOR

At Wrentham it was found that 4.8 per cent of our cases were negro (see Table V). For Massachusetts the proportion of negroes under thirty-five years of age to the total population of similar age-period is 1.1 per cent (United States Census 1920). This difference is statistically significant (approximately 5σ), a result that finds much support in literature. For the whole State the figure is 3.2 per cent of first admissions to training schools during the calendar year 1922 (Census of the Feeble-minded and Epileptic, 1923). The rate for Wrentham is higher, probably because its district includes the Cape and the city of New Bedford where a larger proportion of persons of negro blood reside than is found for the State as a whole. (For New Bedford the proportion is 4.1 per cent — U. S. Census, 1920.) Syphilis may account in part at least for the greater admission rate of the negro, but this is unlikely because the evidence for the direct relationship between syphilis and feeble-mindedness has not as yet been shown. Dayton, Myerson, and others have demonstrated that syphilis (as measured by the blood Wassermann) is found less often among the feeble-minded who are institutionalized than it has been found for the general population.

Notwithstanding the implication of these facts, it is difficult to draw the inference that the negro as a race, because of fundamentally inferior stock, contributes more feeble-minded to the feeble-minded population of the State than the white population. *Their admission rate is higher, perhaps, because their social and economic status plays a large part in their gaining admission.* Their inferior social and economic status interferes with their progress and development, and this inferior environment unquestionably leaves its mark upon them not only in a social sense but in a biological one. At any rate, in this instance it is difficult to separate the effects of environment from those of heredity. All that we are certain of is that the proportion of negroes among the admissions to schools for the feeble-minded, at least in Massachusetts, is greater than one would expect from their proportion in the general population.

TABLE III. — *Clinical Diagnoses of Patients admitted for the first time to Wrentham State School — 1920–1925, inclusive*

DIAGNOSIS	PATIENTS					
	Both sexes		Male patients		Female patients	
	Number	Per cent	Number	Per cent	Number	Per cent
All diagnoses	983	100.0	417	100.0	566	100.0
Unclassified	715	72.5	311	74.5	404	72.0
Hydrocephalic	12	1.0	8	1.9	4	0.7
Microcephalic	21	2.1	8	1.9	13	2.3
Cretin	5	0.5	1	0.2	4	0.7
Mongolian	49	5.0	21	5.0	28	4.9
Congenital Luetic	46	4.6	13	3.1	33	5.8
Spastic	58	6.0	21	5.0	37	6.0
Feeble-minded Epileptic	60	6.5	30	7.0	30	5.3
Others	45	5.0	20	4.7	25	4.4

TABLE IV. — *Clinical Diagnoses of Patients in Residence at the Walter E. Fernald State School in 1925*

DIAGNOSIS	PATIENTS					
	Both sexes		Males		Females	
	Number	Per cent	Number	Per cent	Number	Per cent
All diagnoses	845	100.0	470	100.0	375	100.0
Unclassified *	612	72.5	349	74.0	263	70.0
Hydrocephalic	9	1.0	6	1.5	3	1.0
Microcephalic	17	2.0	7	1.5	10	2.7
Cretins	19	2.5	7	1.5	12	3.0
Mongolians	37	4.5	21	4.5	16	4.3
Congenital Luetic	69	8.0	32	7.0	37	10.0
Spastics	82	9.5	48	10.0	34	9.0

*Including Feeble-minded Epileptics.

TABLE V. — *Patients admitted for first time to Wrentham State School, distributed by Color — 1920–1925, inclusive*

Color	Patients	
	Number	Per cent
Total	983	100.0
White	934	95.0
Negro	47	4.8
Unknown	2	0.2

THE AGE FACTOR

Few children are admitted below five years of age; the majority are admitted during school age (see Tables VI and VII). Their selection is largely determined by the policy of training schools whose aim for the past ten or fifteen years has been to take the feeble-minded young rather than merely to care for them on a purely custodial basis. A large part of the equipment of these schools consists of school rooms of various sorts and opportunities for vocational training such as grounds for farming, carpentry shops, and the like.

As the summaries prepared from the clinical records of the Walter E. Fernald State School consisted only of patients in residence, a table showing admissions for one year (Table VIII) from October 1, 1924, to September 30, 1925, has been added for comparison with similar data from the Wrentham School. The mean age of admission for Wrentham (for six years) is 12.5 ± 0.02, while at the Fernald School the mean age of admissions (for one year) is 14.3 ± 0.57. While it is apparent that at the Wrentham School females are admitted older than at the Fernald School, this observation is not significant in our opinion because of administration factors.

We find that the various clinical groups are admitted at different ages (see Table IX).* The unclassified (which is the most important group socially) tend to be admitted in the older age groups, while the other types tend to be admitted in the younger age groups. This is partly due to the fact that with many of the unclassified their feeble-mindedness is not obvious in the early years, becoming so only when, as they grow older, they make contacts with the outer world in school or elsewhere. With the other types, the feeble-minded behavior and the peculiar appearance are noted sooner. As these types are often infirm physically and require considerable physical care, often almost from birth, admission is asked for at an early age. These cases are most often found in the idiot and imbecile classes, with mental ages below eight years. The unclassified tend to fall in the moron class, with mental ages eight years and over; in this group the matter of physical care is minor; admission with them is largely a matter of segregation, education, and training.

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* Table X gives the age distribution of the resident population at the Walter E. Fernald State School and is not included here in the discussion because the data are not comparable.

As to what the actual age distribution is for the feeble-minded population (including both the institutionalized and non-institutionalized), we cannot infer from our data. We would probably find the classified types tending to fall chiefly in the younger age groups, more or less as in our data, because of the death rate usually prevalent among these types. Any further statement as to the actual age distribution of the unclassified as a whole would be a sheer guess. On the other hand, we would not be surprised to find little or no appreciable difference between the age distribution of the unclassified feeble-minded as a whole and that of the non-feeble-minded population.

TABLE VI. — *Age Distribution of Patients admitted for the first time to Wrentham State School — 1920–1925, inclusive*

AGE GROUPS	PATIENTS					
	Both sexes		Male		Female	
	Number	Per cent	Number	Per cent	Number	Per cent
All ages	983	100.0	417	100.0	566	100.0
1–5 years	109	11.1	60	14.4	49	8.6
6–10 years	277	28.2	138	33.1	139	24.5
11–15 years	341	34.7	148	35.5	193	34.1
16–20 years	169	17.2	54	12.9	115	20.3
21–25 years	46	4.7	7	1.7	39	6.9
26–30 years	17	1.7	4	0.9	13	2.3
31–35 years	10	1.0	—	—	10	1.7
36–40 years	7	0.7	1	0.3	6	1.2
41–45 years	2	0.2	2	0.5	—	—
46–50 years	—	—	—	—	—	—
51 years and over	1	0.1	—	—	1	0.2
Unknown	4	0.4	3	0.7	1	0.2

TABLE VII. — *Age Distribution of Patients admitted for the first time to Walter E. Fernald State School from October 1, 1924, to September 30, 1925*

AGE GROUPS	PATIENTS					
	Both sexes		Male		Female	
	Number	Per cent	Number	Per cent	Number	Per cent
All ages	140	100.0	98	100.0	42	100.0
0–4 years	4	2.8	0	0.0	4	10.0
5–9 years	35	25.0	21	21.4	14	33.0
10–14 years	52	37.0	47	47.9	5	12.0
15–19 years	27	19.2	19	19.3	8	19.0
20–24 years	11	8.0	2	2.0	9	21.0
25–29 years	5	3.5	5	5.1	0	0.0
30–34 years	3	2.1	1	1.0	2	5.0
35–39 years	2	1.4	2	2.0	0	0.0
40–44 years	1	0.7	1	1.0	0	0.0
45–49 years	0	0.0	0	0.0	0	0.0
50–54 years	0	0.0	0	0.0	0	0.0
55 years and over	0	0.0	0	0.0	0	0.0

TABLE VIII. — *Age Distribution of Patients in Residence at the Walter E. Fernald State School in 1925*

AGE GROUPS	Patients	
	Number	Per cent
All ages	845	100.0
1–4 years	3	0.5
5–9 years	93	11.0
10–14 years	237	28.0
15–19 years	186	22.0
20–24 years	80	9.5
25–29 years	62	7.3
30–34 years	54	6.5
35–39 years	34	4.0
40–44 years	31	3.7
45–49 years	18	2.1
50–54 years	9	1.0
55 years and over	8	0.9
Unknown	30	3.5

TABLE IX. — *Number and Percentage Distribution of Patients admitted for the first time to the Wrentham State School, by Clinical Diagnosis and Age — 1920–1925, inclusive*

CLINICAL DIAGNOSIS	PATIENTS IN STATED AGE GROUPS																	
	YEARS																	
	All		1–4		5–9		10–14		15–19		20–29		30–39		40–49		Unknown	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
All Diagnoses	983	100.0	86	100.0	256	100.0	344	100.0	194	100.0	80	100.0	18	100.0	3	100.0	2	100.0
Unclassified	715	72.7	40	46.5	159	62.0	272	76.8	159	82.5	69	86.2	12	66.6	2	66.6	2	100.0
Hydrocephalic	10	1.0	3	3.5	5	1.9	1	0.3	1	0.5	0	0.0	0	0.0	0	0.0	0	0.0
Microcephalic	21	2.1	8	9.3	11	4.3	1	0.3	1	0.5	0	0.0	0	0.0	0	0.0	0	0.0
Cretin	4	0.4	0	0.0	1	0.4	1	0.3	2	1.0	0	0.0	0	0.0	0	0.0	0	0.0
Mongolian	49	5.0	10	11.7	24	9.3	12	4.3	3	1.4	0	0.0	0	0.0	0	0.0	0	0.0
Congenital Luetic	44	4.4	1	1.2	10	3.9	20	6.1	11	5.6	2	2.5	0	0.0	0	0.0	0	0.0
Spastic	51	5.2	11	12.7	16	6.2	18	5.8	3	1.4	1	1.2	2	11.1	0	0.0	0	0.0
Feeble-minded Epileptic	51	5.2	11	12.7	23	8.9	10	3.2	3	1.4	2	2.5	2	11.1	0	0.0	0	0.0
Others	38	3.8	2	2.3	7	2.7	9	2.8	11	5.6	6	7.5	2	11.1	1	33.3	0	0.0

TABLE X. — *Number and Percentage Distribution of Patients in Residence at the Walter E. Fernald State School, by Clinical Diagnosis and Age, in 1925*

CLINICAL DIAGNOSIS	PATIENTS IN STATED AGE GROUPS																											
	YEARS																											
	All		1–4		5–9		10–14		15–19		20–24		25–29		30–34		35–39		40–44		45–49		50–54		55 +		Unknown	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
All Diagnoses	845	100.0	3	100.0	93	100.0	237	100.0	186	100.0	80	100.0	62	100.0	54	100.0	34	100.0	31	100.0	18	100.0	9	100.0	8	100.0	30	100.0
Unclassified	612	72.5	1	33.0	69	74.0	180	76.0	130	70.0	51	64.0	46	73.0	33	61.0	22	65.0	26	84.0	13	72.0	8	89.0	8	100.0	25	84.0
Hydrocephalic	9	1.0	0	0.0	1	1.0	2	1.0	4	2.0	0	0.0	0	0.0	1	2.0	0	0.0	1	3.0	0	0.0	0	0.0	0	0.0	0	0.0
Microcephalic	17	2.0	0	0.0	5	6.0	2	1.0	4	2.0	4	5.0	0	0.0	2	4.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Cretin	19	2.5	0	0.0	2	1.0	5	2.0	1	1.0	2	3.0	2	4.0	1	2.0	3	10.0	0	0.0	1	5.0	0	0.0	0	0.0	2	7.0
Mongolian	37	4.5	0	0.0	5	6.0	10	3.0	10	5.0	4	5.0	2	4.0	5	10.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	3.0
Congenital																												
Luetic	69	8.0	0	0.0	3	3.0	21	9.0	19	10.0	9	11.0	5	8.0	5	10.0	4	11.0	1	3.0	1	5.0	0	0.0	0	0.0	1	3.0
Spastic	82	9.5	2	67.0	8	9.0	17	8.0	18	10.0	10	12.0	7	11.0	7	11.0	5	14.0	3	10.0	3	18.0	1	11.0	0	0.0	1	3.0

NATIVITY OF PATIENTS AND THEIR PARENTS

We wish to understand so far as is possible the more important environmental and social influences which may have played a part in shaping the lives of the individuals concerned in our studies. Sex, age, and color have already been noted and now we come to a consideration of nativity.

Table XI gives the nativity of our Wrentham patients with data from the United States Census for 1920 added for convenience. Similar data for our Fernald patients are not available for comparison.

TABLE XI. — *Distribution by Nativity of Patients admitted for first time to Wrentham State School — 1920–1925, inclusive. Also Distribution according to U. S. Census for 1920, for State of Massachusetts (corrected approximately for Age Differences)*

NATIVITY	Wrentham Patients Number	Wrentham Patients Per cent	Massachusetts † Per cent
Total	983	100.0	100.0
Native born *	930	94.6	87.0
Foreign born	47	4.7	13.0
Unknown	6	0.7	0.0

*Including Negroes
† Age group 5—24.

Studying the above table we find there is a distinct preponderance of native-born (including negroes) in our Wrentham sample, a difference of 7.6 per cent. While statistically significant (approximately 9σ dif.), this result becomes of importance only when considered with the nativity of the parents.

Table XII. — *Distribution by Nativity of Parents of Native White Patients admitted for the first time to Wrentham State School — 1920–1925, inclusive. Also Distribution according to U. S. Census for 1920, for State of Massachusetts (corrected approximately for Age Differences)*

Nativity of Parents	Wrentham Patients Number	Wrentham Patients Per cent	Massachusetts Per cent
Total	882	100.0	100.0
Both native born . . .	252	29.0	36.0
Mixed	259	29.0	17.0
Both foreign born . . .	339	39.0	47.0
Unknown	32	3.0	0.0

Table XIII. — *Parentage of First* Admissions to Institutions for Feeble-minded during 1922, State of Massachusetts (adapted from Table 30, U. S. Census of Feeble-minded and Epileptics in Institutions, 1923)*

	Native White				
	Total	Native parentage	Mixed parentage	Foreign parentage	Unknown
Number of admissions . .	280	105	43	92	40
Percentage of admissions: Unknowns included . .	100.0	37.0	16.0	33.0	14.0
Unknowns excluded . .	100.0	44.0	18.0	38.0	—
Colored included (estimated)	100.0	47.0	16.5	36.5	—

*Colored not included.

Coming next to a discussion of the parentage of native-born patients (the parentage of the foreign-born was excluded from consideration because the number of cases was so small), we find that Tables XII and XIII do not agree. We find that the Wrentham experience as shown in Table XII is not confirmed by Table XIII which gives the parentage of first admissions to all of the institutions for the feeble-minded in Massachusetts, but only for one year, the main difference being in the proportion of the native-born. (This difference is made more striking when the unknowns are excluded.) If we feel that Table XIII is not representative because it is for one year only, and therefore conclude that the Wrentham data can stand by themselves, we find the differences between the data for Wrentham patients and that for Massachusetts to be inconsistent. If the foreign-born are considered as furnishing an excess of feeble-minded patients, there ought to be a preponderance of both mixed and foreign-born over the Massachusetts percentages. This we do not find in Table XII.

It is difficult, therefore, to argue from our data as to the parentage of patients admitted to the schools for the feeble-minded. Further statistical work would have to be done and other data secured to answer this question.

ECONOMIC STATUS

The economic factor is said to play an important rôle in the genesis of feeble-mindedness; it is of importance in diagnosis. Economic considerations, in part at least, also cause many families to bring their children to training schools. Many cases come from other public institutions whose patients also tend to come from the poorer strata of society. Therefore an institutional sample probably differs much in respect to economic status from a sample made up of the larger number of feeble-minded who for one reason or another have not been cared for in institutions.

Table XIV gives the frequency distribution of the economic status of our Wrentham patients (there is no comparable data dealing with the patients from the Fernald School). With so many "unknowns" it is difficult to go far with the analysis of these data. At any rate, it is interesting to note that so large a number have come from public institutions with the economic status it implies. These number 155, — 20 per cent of the total number of patients, — whose economic status is known. The majority are females, many of whom were, prior to their admission to Wrentham, patients of public institutions for purposes of confinement (unmarried mothers). The feeble-mindedness of these patients has usually been discovered at these institutions. In a few instances the children are also admitted with their mothers. Some patients come from reformatories for women where their condition of feeble-mindedness has been discovered.

TABLE XIV. — *Economic Status of Homes of Patients admitted for first time to Wrentham State School — 1920–1925, inclusive*

Including Unknown Group

ECONOMIC STATUS	PATIENTS					
	Both sexes		Male		Female	
	Number	Per cent	Number	Per cent	Number	Per cent
All homes . . .	983	100.0	417	100.0	566	100.0
Dependent . . .	293	29.8	120	28.8	173	30.6
Dependent, institution .	155	15.8	39	9.3	116	20.5
Marginal	228	23.2	96	23.0	132	23.3
Comfortable . . .	84	8.5	52	12.5	32	5.6
Unknown	223	22.7	110	26.4	113	19.9

The "comfortable" group, as one would expect, is small. There are 84 cases in all, 50 of whom are in the moron class. The remainder are equally divided among the imbecile and idiot groups. The imbecile and idiot are often so difficult to care for that their parents, even though financially able to provide the special care required, find it best to send these children to training schools.

The dependent group (including the dependent institutional) in our data is considerably larger than one would expect for the general population; and *vice versa*, the marginal group is smaller than expectation. We have every reason to believe that the Wrentham results picture quite closely those that would be found for practically all other publicly administered training schools. On the other hand, it is well to bear in mind that, if we had the facts, the feeble-minded who remain outside of these training schools would probably give us a different picture as to economic status.

SIZE OF FAMILIES

In discussing this topic one must have clearly in mind whether or not one is considering the family into which the feeble-minded are born or whether the fecundity of the feeble-minded adult is in question. Popenoe has found the fecundity of the feeble-minded female, as represented in the families of inmates of the Sonoma State Home, not greater than what he believes is the average for the general population. He also found that the fecundity of the male inmates was of practically no significance, that as a rule they do not mate. We have no data on this score. We still feel, as Popenoe does, the lack of data concerning the fecundity of the non-institutionalized feeble-minded. Nevertheless, Popenoe's findings reopen the whole question of the fecundity of the feeble-minded, — the legend that the typical feeble-minded family is a large one having become almost confirmed tradition. We are pleased that this tradition is being questioned, for we believe that as we get away from drawing conclusions from single instances, especially museum examples such as the Kalikak family, we shall find that much that has been accepted as final about the feeble-minded will be discarded or modified.

When we come to consider the size of the family into which the feeble-minded are born, — that is, the fecundity of their parents, — we find our data illuminating. (See Tables XV and XVI.) Nevertheless, we are quite chary about drawing inferences from them even though our results seem to agree quite well with what Popenoe found in his California studies. He found the average number of children to be about three (with statistical correction for sampling error due to number of children in families). His families were like ours, — families into which the feeble-minded were born where the fecundity of the parents of patients was called into question. His families resemble ours in another particular; that is, both deal with a mixture of complete and incomplete families. This imposes a real difficulty statistically. It would be much better if we had enough completed families to make a study of them alone. This was apparently found impractical in Popenoe's study, as it was in ours.

The best study on this subject in our opinion is that by Dayton utilizing the case-record material of the Traveling School Clinics of Massachusetts. Having the advantage of being based on material not found in the special institutions for the feeble-minded, and being free of all the selectional influences inherent in a sample limited only to institutional cases, Dayton's studies have the additional virtue of having large numbers of completed families. In this connection it may be mentioned that the technique of examination and diagnosis was practically the same for the Traveling School Clinics as for the Fernald and Wrentham Schools. The techniques were in all instances developed by Dr. Fernald and his co-workers, and the personnel in charge of both the Traveling School Clinics and the Training Schools were largely personally trained by him. Dr. Dayton found the average number of children in completed families to be nearly five (with statistical correction*), and about seven (without).

Not having sufficient completed families in our series to work with, we may use to compare with ours Dayton's data for complete and incomplete families added together. Here Dayton

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*According to method of Lenz as given in *Eugenical News*, January, 1926, p. 2, ft.

found these families (without statistical correction) to have on the average about 6.24 children, — a larger number than ours (Wrentham 4.9, Fernald 5.3). We cannot explain these differences with any degree of assurance. On the other hand, there are certain factors which would account for the fact that our families appear to have a smaller number of children.

First, the Wrentham and Fernald samples contain a large proportion of idiot and low-grade imbeciles, but these hardly ever get into the school system and therefore do not get into the Traveling School Clinics. In these instances it is highly probable that the birth of a low-grade feeble-minded child, where the feeble-mindedness is so evident and so extreme, discourages the parents from having further children, with the result that there is a conscious, or perhaps unconscious, restriction in the size of the family. This holds with greater force in those instances where the low-grade feeble-minded child comes early in the sequence of birth. Second, an institutional sample includes, often enough to warrant consideration, instances where mother and children are both admitted at the same time. Because of the segregation of the institution the natural fecundity of these mothers is interfered with. Third, many a child is accepted for admission to a training school when, if the reason for application were only the feeble-minded status of the child, admission would be denied. Where the mother is dead or so seriously ill that the child becomes neglected or there is no one to care for it, the child becomes eligible for admission and is admitted. Social consideration superimposed upon feeble-mindedness is what brings about admission. In these cases the family does not increase in size, as the natural fecundity of the mother is not free to exhibit itself.

Bearing in mind all of these factors it is not easy to offer judgment in this matter. On the other hand, we cannot help but feel that for the unclassified group, Dayton's figures are probably the more representative; but for the classified group the Fernald and Wrentham figures are nearer the truth.

Despite these assertions, probable as they may seem, we must analyze further to ascertain whether or not some important fact or group of facts or relationships have not been covered up in the attempt to get at a statistical constant which would give us an approximate idea of the average size of the families in question. The truth may be that under special circumstances large families are born, tending to give us a higher mean. Table XVII gives a hint that this may be so. This table suggests that where both parents are feeble-minded we tend to find large families, but where the parents are apparently not feeble-minded, we tend to get families not so large and apparently near the average size for the general population of which we have a vague idea. But Dayton's data do not as yet give this detail, and without this information, either in his or other data, we do not know how important this factor is.

We cannot be certain that the family in which there is at least one feeble-minded child is larger on the whole than the average family with neither feeble-minded parents nor feeble-minded children. Dayton's data would tend to the belief that the former type of family tends to have more children than the latter. We may feel a little more sure of this in the case where both parents are feeble-minded because our data, though scanty in numbers, falls in line with what other investigators have found to be true where both parents are feeble-minded. Nevertheless, no one has made or reported a survey of families in the general population where both parents are feeble-minded. Until this is done, we must still conjecture. We do not even feel it safe to compare the mean number of children either of our families or of Dayton's families with similar means which have been published for the general population. In some cases we do not know how these have been derived. In others we do not know what adjustments to make so that comparison with our data would be a safe statistical procedure. Averages computed for the general population* do not take sufficiently into consideration the factor of complete and incomplete families; the mean age of the parents and its dispersion are not known; the various economic and social levels are not marked out, and many similar and analogous errors are contained within these means as well as within our own.

In addition, any real answer to the question of size of family should take into consideration not only the families of one generation but the families of a number of generations. This we are not able to do. This is necessary, however, in order to measure the effect of social and economic factors which have taken place over a period of years, for, after all, it is generally

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*The United States Census Birth Statistics for 1920 give the average number of children ever born to mothers of 1920 in the registration area for white children:

	Average number of children ever born	
Ages of mother	Native-born mothers	Foreign-born mothers
40–44	7.4	7.9
45–49	8.7	9.2

These figures are only suggestive of the average size of completed white families for the registration area (assuming that the age 45 is the natural limit of fecundity). That is so because only those families were included where a child was born to a white mother between the ages of 40 and 49 inclusive. What we would prefer to know is the average size of families of mothers whose ages range between 40 and 49 inclusive. At any rate, it is a little clearer to see that the average size of families complete or not complete is not a datum which one can derive without the feeling that it may be inadequate for statistical induction.

conceded that many such factors influence fecundity more or less. Birth control may be cited as an instance.

In short, the problem of size of family is bound up with so many difficulties which at present defy analysis that we are practically left without a decisive answer. We ourselves believe that if size of family is a factor of importance, it is only so in those instances where both parents are feeble-minded.

TABLE XV. — *Number of Siblings (including Patient) in Families of Patients admitted for first time to Wrentham State School, by Broad Diagnostic Groups — 1920–1925, inclusive*

NUMBER OF SIBLINGS IN FAMILY	PATIENTS WITH SPECIFIED NUMBER OF SIBLINGS					
	Total		Unclassified*		Classified	
	Number	Per cent	Number	Per cent	Number	Per cent
Total	983	100.0	715	100.0	268	100.0
1	76	7.8	50	7.0	26	9.7
2	127	12.9	86	12.0	41	15.3
3	139	14.1	98	13.7	41	15.3
4	146	14.8	101	14.1	45	16.8
5	127	12.9	97	13.5	30	11.2
6	93	9.4	69	9.6	24	9.0
7	72	7.4	55	7.7	17	6.3
8	42	4.3	30	4.2	12	4.5
9	43	4.4	34	4.8	9	3.4
10, and over	68	6.9	53	7.5	15	5.6
Unknown	50	5.1	42	5.9	8	3.0

*Including "unknowns," over 90 per cent of whom have been ascertained to be "unclassified."

Mean number of siblings per family for all cases: 4.8 ± 0.09

Mean number of siblings per family for unclassified cases: 4.8 ± 0.1

Mean number of siblings per family for classified cases: 4.5 ± 0.3

Mean number of siblings per family for all cases, corrected for sampling error due to number of children in families: 3.2

TABLE XVI. — *Number of Siblings (including Patient) in Families of Patients in residence at the Walter E. Fernald State School by Broad Diagnostic Groups, in 1925*

NUMBER OF SIBLINGS IN FAMILY	PATIENTS WITH SPECIFIED NUMBER OF SIBLINGS					
	Total		Unclassified		Classified	
	Number	Per cent	Number	Per cent	Number	Per cent
Total	845	100.0	612	100.0	233	100.0
1–3	232	27.5	165	27.0	67	29.0
4–6	237	28.0	184	30.0	53	23.0
7–9	128	15.0	86	14.0	42	18.0
10–12	32	4.0	24	4.0	8	3.5
13–15	12	1.5	9	1.5	3	1.5
16 and over	0	0.0	0	0.0	0	0.0
Unknown	204	24.0	143	23.5	61	26.0

Mean number of siblings per family for all cases:	5.0 ± 0.11
Mean number of siblings per family for unclassified:	5.0 ± 0.13
Mean number of siblings per family for classified:	5.6 ± 0.23
Mean number of siblings per family for all cases corrected for sampling error:	3.5

TABLE XVII — *Distribution by Number of Feeble-minded Siblings (including patient) and Parental Heredity of Patients admitted for the first time to Wrentham State School — 1920–1925, inclusive*

Number of F. M. Siblings.	Patients with Stated Parental Heredity																																			
	Total			Both Normal			One Feeble-minded. One Normal			Both Feeble-minded			One Feeble-minded. One Mental			One Feeble-minded. One Epileptic			Both Mental			One Epileptic. One Mental			One Epileptic. One Normal			One both Feeble-minded and Mental			One Mental. One Unknown			One Feeble-minded. One Unknown			Unknown		
	Both	Males	Females	Both	Males	Females	Both	Males	Females	Both	Males	Females	Both	Males	Females	Both	Males	Females	Both	Males	Females	Both	Males	Females	Both	Males	Females	Both	Males	Females	Both	Males	Females	Both	Males	Females	Both	Males	Females
Total	983	417	566	346	183	163	26	15	11	49	17	32	11	3	8	3	1	2	3	3	0	2	1	1	15	9	6	1	1	0	34	19	15	77	13	64	416	152	264
1	490	243	247	312	166	146	7	4	3	2	1	1	4	1	3	1	0	1	1	1	0	1	0	1	12	7	5	0	0	0	12	9	3	22	6	16	116	48	68
2	143	50	93	13	7	6	9	3	6	15	5	10	2	0	2	1	1	0	2	2	0	0	0	0	3	2	1	1	1	0	6	2	4	20	1	19	71	26	45
3	45	16	29	1	0	1	1	1	0	13	4	9	3	2	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2	1	1	8	2	6	16	5	11
4	18	7	11	1	1	0	0	0	0	5	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	2	9	3	6
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	3	1	2	0	0	0	1	1	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	2	0	2	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	281	100	181	19	9	10	8	6	2	9	5	4	2	0	2	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	13	6	7	25	4	21	204	70	134

The Inheritance of Feeble-mindedness

We have now come to the discussion of the central problem of our research: Does it appear likely that feeble-mindedness is an inherited trait? Stated more accurately, does feeble-mindedness occur according to established Mendelian ratios?

We cannot treat feeble-mindedness according to the usual methods of the genetic laboratory. There cannot be matings at will nor under controlled conditions. There can be proof only by analogy, always a dangerous method, but unfortunately the best that can be employed at the present time when one is studying a topic like that of inheritance among humans. Of course, there may be a number of qualitative facts of importance which may lead one to cast out or to accept a theory such as the Mendelian. The observation repeatedly made that where there are feeble-minded parents there tend to be feeble-minded children — an observation also noted in both our samples — is an important qualitative fact. It does not of itself prove inheritance. The observation that where fathers are sea-faring men, the sons tend to be sea-faring men when grown up is an important observation, but no one today assumes that the occupation of the sea is an inherited (sex-linked) one in the biological sense.

Agreement with established Mendelian ratios is excellent proof of biological inheritance when made under carefully controlled conditions, but it should be borne in mind that these conditions are not satisfied in studies like ours made upon the clinical records of training schools or even upon genealogical material.

Table XVIII gives the number of families of our Wrentham patients having a specified number of siblings (including the patient), with the percentages of feeble-minded children among them, compared with the theoretical expected percentages if feeble-mindedness behaves as a simple recessive. It is interesting how closely the distribution agrees with the expected theoretical ratios. These ratios are found for both animals and plants when a trait in question is a simple recessive and where the sample includes only those families where at least one sibling has the trait in question and where there has been no selective mating.* The differences noted between the observed and expected ratios may be ascribed to sampling except in the case of the families of nine and ten siblings where the number of feeble-minded observed is significantly less than that which is theoretically expected. That we should have such a close agreement is noteworthy. The fact that there is disagreement in the case of families of nine and ten siblings does not prevent us from drawing the tentative conclusion we have from this agreement. In our opinion very large families have a higher mortality rate (as has been ascertained), which would tend to give us inadequate information about those children who had died before their mental status could be determined. *That is, in our case, we have among the unknowns, which we have credited as negatives (a certain number of whom are deaths), a larger proportion of the definitely feeble-minded than among the smaller families.*

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* In the case of the feeble-minded who marry, one has to bear in mind the factor of assortative or selective mating. This is an important question particularly in the case of the moron. How important a factor this is it is difficult to decide; and if important, just in what ways is not definitely known. If in fact it is a large factor, our reasoning by analogy is fallacious. On the other hand, the agreement through analogy suggests the possibility that assortative or selective mating is not the important factor so often assumed.

One should be cautious about accepting from our material the conclusion that feeble-mindedness behaves as a simple recessive because of the assumptions made and noted in the notes to Table XVIII.

There is one further step one may take before accepting the conclusion here stated that our sample of feeble-mindedness behaves as a simple recessive. If it behaves in this way, we should find according to theory that the children of parents who are both feeble-minded are all feeble-minded. Does our material check with this deduction? We went directly to the original case records in our Wrentham series and studied each intensively; that is, those cases where it was known that both parents were feeble-minded and the number of children born was also known. About 20 per cent of the cases had no statement about the children who were not diagnosed as being feeble-minded. The remaining cases gave the information that every child in these families was feeble-minded, with three exceptions. There was one family where the other children were called borderline, and two families where each of which had two children who were definitely called "normal."* This result may be considered a fairly good check when one takes into consideration the kind of material analyzed. Of course, it should be remembered that the number of cases which were studied in making this check was less than 40, a number not large enough to be satisfactory.

The Fernald data do not allow duplication of this analysis made on the Wrentham material. Another such analysis on case material of another institution is essential before one should give the Wrentham result too much credence.

One other aspect of the problem of the inheritance of feeble-mindedness was investigated, with the data giving contradictory results. This dealt with the theory of polymorphous heredity.

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*That is, free from feeble-mindedness, epilepsy, or mental disease. In fact, there was no question of borderline feeble-mindedness. Of course, these four children may have had fathers out of wedlock.

The question was asked whether or not mental disease was found more often in families of the feeble-minded than it was found for the general population. The Wrentham data showed a significant excess of mental disease among the parents, while the Fernald data showed that there was neither an excess nor a deficiency. No attempt was made to analyze our material for epilepsy as it was found impossible to get data relating to its incidence in the general population that was in any way comparable with what was obtained in the case of mental disease.

Table XVIII. — *Number of Families of Patients admitted for the first time to Wrentham State School having specified Number of Siblings (including Patient) with Percentage of Feeble-minded Children among them — 1920–1925, inclusive, with the expected percentages if Feeble-mindedness Behaves as a Simple Recessive*

Families Having Specified Number of Siblings (Including Patient)

	Total Families	1		2		3		4		5		6		7		8		9		10 +	
		Number	Per cent of Feeble-minded	Number	Per cent of Feeble-minded	Number	Per cent of Feeble-minded	Number	Per cent of Feeble-minded	Number	Per cent of Feeble-minded	Number	Per cent of Feeble-minded	Number	Per cent of Feeble-minded	Number	Per cent of Feeble-minded	Number	Per cent of Feeble-minded	Number	Per cent of Feeble-minded
Observed	591*	76	100.	97	60.	115	47.	115	37.	82	30.	25	23.	5	30.	25	23.	12	14.	39	16.
Expected	– †	–	100	–	57 ± 2	–	43 ± 2	–	37 ± 2	–	33 ± 2	–	30 ± 3	–	29 ± 6	–	28 ± 3	–	27 ± 4	–	26 ± 1

*591 out of 983 admissions (about 60 per cent) had information as to size of family and number of feeble-minded siblings. We have here discarded "unknowns" on the assumption that, were the information known instead of unknown, the meaning of the table would not be materially changed. We have assumed that the probability of obtaining information as to the number of feeble-minded siblings is not correlated with the size of the family; also that where the number of feeble-minded siblings is known and nothing is stated about the children who are not declared feeble-minded, they are not feeble-minded. In addition patients have been counted as representing separate families; that is, a family has been counted twice, or in rare instances three times. It is not uncommon in schools for the feeble-minded to have a number of related siblings under care. This particular circumstance lessens somewhat the statistical significance one would attach to the above percentages.

The observed distribution includes both the classified and the unclassified. When the unclassified cases were analyzed by themselves, the same observed ratios were noted as were found for the group as a whole. Whatever differences occur were found to be not significant statistically.

† The expected percentages in Table XVIII were estimated as follows: Let p = the chance of a feeble-minded person among siblings in the family, n = number of siblings in a family, N = number of families. In the general population then by chance alone we should expect the siblings of the family to be distributed according to the terms of the expansion of $(p+q)^n$. But the above data was selected obviously so that it contained no families in which no siblings were feeble-minded. Therefore $\Sigma(p+q)^n$ in the selected sample is $1-q^n$ instead of unity. The mean of the sample is therefore $\frac{np}{1-q^n}$ and the expected proportion of feeble-minded in the family of n siblings is $\frac{p}{1-q^n} = P$. The standard deviation of the above distribution is

$$\sigma = \sqrt{\frac{npq + n^2p^2}{1-q^n} - \frac{n^2p^2}{(1-p^n)^2}}$$

and the s. d. of the proportion P is

$$\sigma P = \sqrt{\frac{pq}{n(1-q^n)} + pP - P^2} = \sqrt{P\left(\frac{q}{n} + p - q\right)}$$

The mean proportion of N samples of n siblings is $\frac{\Sigma P}{N}$ and the s. d. of the mean $\frac{\Sigma P}{N}$ is $\frac{\sigma P}{\sqrt{N}}$.

Some estimate of the p must be made in order to evaluate these expressions. If we assume that feeble-mindedness is a character which behaves as a Mendelian recessive then we can let $p = \frac{1}{4}$. On this assumption the above expected proportions with their standard deviations have been computed. The agreement of the observed percentages with the expected percentages is very good except for the families of 9 and 10 siblings where the number of feeble-minded observed is significantly less than that which is theoretically expected.

CONCLUSION

Bearing in mind that throughout the analysis of the material it was generally assumed that a trait or factor was negative or did not exist if no observation was made as to that trait or factor, our study suggests the hypothesis that feeble-mindedness of the unclassified type behaves as a simple recessive. The import of this conclusion is limited for the observations were of the institutionalized feeble-minded and neglected the larger body of the feeble-minded outside of institutions. The data show that social and economic factors play a large part in the admission of the feeble-minded to training schools, and this fact further limits the significance of this hypothesis.

NOTE BY DR. MYERSON AND DR. ELKIND

Where a character or set of characters cannot even be defined (see Part I), it is nearly impossible to carry out statistical studies of real validity. This is the situation of feeble-mindedness at present. One simply does the best he can with current definitions, for often in science progress is made with tentative definitions or with partial knowledge.

It is true it is dangerous to analyze statistically clinic records. It is the same of genealogical material. But until better records are available, we must be content to study what we have. It is only by doing so that we will learn how to collect data sufficiently adequate and accurate for scientific analysis.

We must know in advance what data we need; we must carefully consider the matter of definitions; we must be sure to get the required data in each case, record them carefully, negative as well as positive data. We must take into account the errors of observation. (See paper by Elkind and Doering, "The Application of Statistical Method to the Study of Mental Disease." American Journal of Psychiatry, Vol. VII, No. 5, March, 1928.)

We believe our institutions have not taken advantage of their opportunities to make their clinical records sufficiently adequate for scientific analysis. Family studies could easily be made at the time of a patient's admission to a hospital, and these studies should be made nation- and world-wide, with agreed-upon lines of study and with agreed-upon methods of recording. Such studies made over a generation or two would be of value, although even then we doubt that it could solve definitely the problem of causation. Limited as we are to statistical method by the very nature of our problem, we can never be sure of the relation of cause and effect. Experimental science is not yet applicable to feeble-mindedness; until it is, all of our research in the field of feeble-mindedness must be conjectural. But we can reduce the degree of conjecture. This should be our task in the future.

CHAPTER XI

SPECULATIONS CONCERNING THE GENESIS OF FAMILIAL, OR HEREDITARY, FEEBLE-MINDEDNESS

We are not at a stage in the understanding of feeble-mindedness where it is possible to consider in any detail such speculations as concern themselves with the Mendelian phase of feeble-mindedness.* The earlier work of Davenport and Goddard has been tacitly disowned by themselves, and it is a far cry from those days in which all forms of criminality, social failure and delinquency were linked up indissolubly with feeble-mindedness. One by one the bogies have disappeared from the literature. The great prolificity of the feeble-minded is really no longer a fact. The great tendency of the feeble-minded to all kinds of destructive, anti-social acts has been exploded, and it has become increasingly recognized that the feeble-minded of the higher type, at least, can be educated to fairly useful social adjustment. (See in this connection the reports of Dr. Charles Bernstein, and for a full account, the excellent chapters by Dr. Stanley P. Davies in his book, "The Social Control of the Feeble-minded.") Feeble-mindedness is recognized as a complex of conditions and one of the conclusions reached in this paper, that feeble-mindedness on the whole is associated with defective bodily structure, leads to the conclusions that whatever injurious is operating is operating on the individual as a whole.

A considerable proportion of feeble-mindedness runs in families. It involves siblings and parents in some unknown quantitative relationship. There is no evidence of a trustworthy kind

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*When Goddard[6] raises the question whether or not the moron is really feeble-minded, he throws out in effect the larger part of those cases which have been emphasized as hereditary in his studies. In a private letter to me, Dr. Davenport states that he has at present no theory to advance for the hereditary side of feeble-mindedness. This is in line with his more recent writings, in which he feels that the Mendelian hypothesis does not explain all the facts of the feeble-minded and it represents in part his effort to include social maladaptations of various kinds as feeble-mindedness.

Castle[3] very strongly objects to feeble-mindedness as a trait which can be of simple Mendelian inheritance.

Wallin[19], in his studies of *Mental Deficiency and Handicaps*, states that in his analysis of 3,300 family histories of extra-institutional subjects, he found no clear-cut evidence of neuropathic inheritance.

The textbook writers, of whom Tredgold[18] can be put forward as the type, believe strongly in the polymorphic theory of heredity, and link up feeble-mindedness in a descendant with all kinds of conditions in the ancestry. But Tredgold believes that environmental factors create pathological germ plasm. He says that in 90 per cent of the patients suffering from mental deficiency, the conditions result from the morbid state of the ancestors. It so impairs the vital powers of the embryo that full development cannot take place.

See Davies[4] for a very excellent discussion of the whole situation in regard to the heredity of feeble-mindedness at the present time.

to show that it runs inevitably and forever, or that it represents the kind of hereditary quality represented in blue eyes, color of skin, etc. Assuming that there is an hereditary factor in a considerable proportion of feeble-mindedness, I deliberately adopt as a working hypothesis that what we call feeble-mindedness may arise from two sources — first, an injury to the germ plasm of one generation or of several generations, and which manifests itself in the production of inferior individuals; second, that the earliest environment of the child, including the uterus of the mother, may be responsible for the defective individuals. The effects of the environment have not been sufficiently studied, and in adopting this uterine injury as part of a working hypothesis, I hope to stimulate study of uterine conditions in a more thorough way than has hitherto been done. *In adopting this working hypothesis, I am perfectly aware of the fact that there is absolutely no proof of its truth in so far as the human being is concerned.* It merely represents a logical "As if," an approach by a scientific theory which, to me, seems to carry with it great possibilities in the shape of fruitful results. The studies here recorded indicate to me that the whole individual, in the sense which William W. Graves has emphasized, is involved — that forces are operating which do not involve unit characters, but which involve large segments of the organic life of the individual, and it is this diffuse injury which is responsible for the conditions which we call feeble-mindedness.

In their reaction against the naïve formulae of Lamarck, that the environment operated directly upon the germ plasm, that use and function produced changes in the germ plasm which could be transmitted to posterity, the biologists fell into the opposite error of ascribing everything to heredity and dismissing cavalierly and with scorn the idea that the environment could in any fundamental way affect races. Though Weismann himself conceded that certain pathological influences could interfere with the development and alter the capacity of the descendants of individuals so treated, the whole tendency of biologists was to build up around the continuity of the germ plasm idea the secondary notion that the germ plasm lived in a sort of sanctum sanctorum, into which nothing environmental could intrude, and that no matter what the vicissitudes or the fortunes of the individual might be, the germ plasm lived on serenely unaltered. It did not seem to be taken into account that the germ plasm was continually being bombarded by environment, that the very constancy of germ plasm was associated with a constant environment, that there was no germ plasm without an environment, that each bit of germ plasm was environment to the next bit of germ plasm, and that testicle and ovary, as they were factual and non-mystical in the living animal, were subjected to toxic and nutritive influences comparable to those operating upon the rest of the body. No one who has done autopsies and found atrophies and inflammation of these generative organs can feel that they are exempt from the vicissitudes which fall upon all living tissues and that, consequently, germ plasm is not exempt from the unfortunate vicissitudes which involve body plasm.

It is true that not all biologists have made this complete separation between those inner forces which are represented in heredity, and those outer forces which are represented by the whole cosmos. From Darwin all along the line there has been a distinguished list of biologists who have insisted that environmental forces playing in and out of germ plasm operate on it, altering it for the better or for the worse, producing mutations and deformities; that germ plasm and soma plasm were not separate entities, in that germ plasm was scattered throughout the whole organism and formed part of the reaction of every cell to life. I have cited these authors in detail in my work, "The Inheritance of Mental Diseases," and do not intend to line up these distinguished environmentalists again. First, I wish, however, to cite those pieces of work which show that even the genes express their hereditary characters by virtue of an environment which permits that expression, and when that environment is changed, the genes express themselves in a hereditary way, but in a totally different way. Second, I shall line up some experiments, familiar for the most part, which indicate that the environment can be focused upon the germ plasm so as to alter the character of the descendants for several generations, corresponding to what August Forel calls *blastophthoria*. Third, I shall cite some experiments, perhaps of doubtful authenticity but put forth by reputable men, that the use of the intelligence can be transmitted to posterity in the shape of an increased facility. These are very critical and important experiments. They need, of course, amplification and repetition. They are cited, however, for what they are worth. Fourth, I shall cite cases of identical twins brought up in different environments with curious results as to intelligence and temperament differentiation. Fifth, I shall cite social studies bearing on the effect of the environment on the intelligence of children.

I turn now to some of the writings and experiments which show that the inner forces, or heredity, and the universal forces, or environment, interplay in such a way as to make futile and hairsplitting any technical statements that heredity is not fundamentally directed in its course by the environment. The fact that all the hereditary substances dwell in tissues constantly being played upon by the blood stream would make this *a priori* true. But experiments are not lacking to destroy the conception of an immutable germ plasm.

I. *The Right Environment is Necessary for the Production of Mendelian Characters.* If the environment is changed, other characters appear. I cite the statements made by Jennings[7] in "Prometheus" regarding the fruit fly:

"In that animal whose heredity is better known than is that of any other organism, the fruit fly, individuals occur with hereditary abnormalities. The abdomen is irregular, deformed; the joints between the segments are imperfect. This is sharply inherited as a sex-linked character. . . .

"But the fruit flies in the laboratory usually live in moist air, and this inheritance appears under those conditions. If they are hatched and live under dry conditions, the abnormality doesn't appear — even in those daughters which indubitably inherited it. Clearly it is not necessary to have a characteristic merely because one 'inherits' it. Or more properly, characters are not inherited at all; what one inherits is certain material that under certain conditions will produce a particular characteristic; if those conditions are not supplied, some other characteristic is produced. . . .

"Other known cases illustrate the effect of the environment in altering the totality of the organism, its entire personality, as it were. Many years ago there was discovered in Mexico a salamander that lives throughout its life in water, has a heavy, broad body, a tail flattened for swimming and external gills. In this condition it becomes mature, lays its eggs in the water, produces young that inherit its characteristics and finally dies. . . . Breeding experiments on these animals would show these characteristics to be inherited in the usual Mendelian manner.

"But after years in which these were the only inherited characteristics that they were known to possess, certain different environmental conditions were brought into action, and thereupon the axolotls developed a new set of inherited characteristics, a new and diverse personality. The external gills disappeared; the body became smaller, slender, and of a very different shape; the animals came out on the land and remained there, breathing air. They now became mature in this amblystoma condition, laid eggs, produced offspring which, again, under these conditions developed into land animals of the same sort; and this, too, may continue for generation after generation."

The mutation rate can be altered by environmental forces: The heart of the whole theory of heredity has been that mutations do not arise from environmental forces. Whether they do or not, environmental forces can be utilized to produce mutation. I cite the work of H. J. Muller[12] and his associates. In his earlier paper, "Mutation," he states:

"External agents do not ordinarily increase the mutability sufficiently, if at all, to cause an obvious 'production' of mutation."

Of his later work, reported in "Science," it is stated:

"Chief interest centered in the recent attempts to alter the course of inheritance and the frequency of mutation by treatment with X-rays. The most intensive experiments in this direction were reported in detail by H. J. Muller, whose paper (for which the American Association prize was awarded this year) is abstracted in the section on the prize. By use of a special technique for measuring the frequency of mutations in drosophila melanogaster, he obtained results indicating that the application of sublethal doses of X-rays to sperm was followed by a large increase in the mutation rate of treated, as compared with control, cultures. The mutation rate in some treated cultures was estimated at 15,000 times the normal rate. F. B. Hanson, working in Dr. Muller's laboratory, at the University of Texas, reported on the direct effect of X-rays on the productivity and sex ratios of drosophila and reported also the appearance of many mutations in the X-rayed cultures. From the botanical side, L. J. Stadler reported on the occurrence of new endosperm characters that apparently had risen by mutation in maize ears X-rayed at the time of fertilization. The same investigator presented evidence for the occurrence of mutation in seedling from treated barley seeds. T. H. Goodspeed and A. R. Olsen reported that many variant types had been found in the progeny of X-rayed Nicotiana plants, and gave evidence of a considerable degree of chromosome irregularity following the treatment."

I cite the following from an article on the effect of heredity and environment in determining color of the Himalayan rabbit: It has been known for some time that the pattern of the Himalayan rabbit (pink eyes, white coat, dark ears, nose, tail and feet) depends on (1) a single factor allelomorphic with albinism, and (2) the temperature in which the rabbit is kept. If white hairs are pulled out and the animal kept in the cold, the new hairs come in black. (For further details see "Varieties of White Rabbits," by W. E. Castle[3].)

"N. A. Iljin[8] has recently studied the temperatures at which the color change takes place. He finds that it differs for different parts of the body, and most important of all, it differs in different races of Himalayan rabbits. Some races show the reaction at a slight lowering of the temperature, and the others have to be subjected to extreme cold to bring it about. Iljin shows that what is inherited in Himalayan rabbits is not a pattern, but a specific type of reaction of different tissues to specific environmental conditions. The same genes determine white at one temperature and black at another; while other genes alter the threshold of response, *i.e.*, raise or lower the dividing line between a 'black' temperature and a 'white' one.

"Thus it is possible within limits to alter a character either by altering the environment or by altering the genetic constitution through breeding. This double control increases the number of possible kinds of expression of the character, for each new environmental factor which becomes known has much the same effect as a new set of genes discovered, *i.e.*, the number of possible combinations is increased not merely arithmetically but geometrically.

"Both Iljin's work with Himalayan rabbits and Zaqadovsky's are in the direct line of the new advances in genetics, which attempt to determine how the genes produce their effects and how they are fitted into a scheme of development which is the resultant of both internal and external forces."

II. *The Sex Ratio may be altered by Environmental Changes.* A. Franklin Shull[15] shows what is now a clinical, biological fact: that the sex ratio can be changed by many expedients in rotifers. He states, "Though the hereditary factors concerned with the life cycle and determination of sex are important, probably the most important, the extent to which they come to expression in any family may be greatly altered by environment conditions. A long list of chemical substances has been found, each of which when dissolved in the water in which the rotifers live reduces the proportion of sexual reproduction, and hence of male. Some of these substances are ammonium carbonate, and other ammonium salts, cane sugar, uteric acid and creatin. Concentrated solutions of some of these may practically exclude male production even in lines from which hereditary factors alone produce many males. . . . It was first discovered by Whitney and later verified by my own work that green food greatly increased the amount of male production."

Arthur M. Banta[2] and L. A. Brown[2] found that crowding the females from early life until they produced young causes the production of an excess of males. They confirmed the experiments of Grosvenor and Smith. Uncrowded bottles of the females produced a low percentage of males; crowded bottles produced an excess of males.

Many experiments have been done in recent years to show that diet alone may create absolute sterility in females. (*See* McCollum, E. V.)

The environment may be focussed on the germ plasm and produce defectiveness for several generations. I refer the reader to my references in the "Inheritance of Mental Diseases," in which a long list of these experiments is given. Most important are the classical works of L. J. Cole and L. J. Bachhuber on the effect of lead. It seems definitely established that lead produces a marked blastophthoric defect, so that not only are the immediate individuals injured, but the offspring remain permanently underweight and underdeveloped.

The classical experiments of Stockard[17] and his co-workers on the alcoholized guinea pig show that one generation of animals may be injured by alcohol so that for several generations the defect or the inferiority is present.

D. Carleton MacDowell[10] states, "The main question under investigation may be stated as follows: Does this alcoholic treatment have any genetic significance? Is the race, as well as the individual modified in any way by this treatment? The present experiment appears to give an affirmative answer. The alcohol *has* modified the race."

Most interesting is the work of Guyer[7] and Smith[7], who by injecting into fowls the pulverized lens of rabbits obtained a serum having a remarkably lytic or destroying effect upon the lens of rabbits. When this serum was injected in pregnant albino rabbits during the first ten to thirteen days of the pregnancy, important results were obtained. Many of the foetal rabbits died. In the surviving ones there were marked defects in the lens or eyeball which became hereditary. The author stated that this defect has been transmitted for eight generations, and what is more important, the defect continually tends to become more serious in successive generations. It is only fair to state that the work of other writers has not corroborated Guyer and Smith.

I do not cite in detail the immense number of experiments that have been done which show that the X-ray and other agents may completely change the development of living creatures and their progeny. A long review of this subject is given by Halsey J. Bagg[1]. The names of Bohn, T. Hertwig, Motrim, Terr, Schaper, O. Hertwig, G. Hertwig, and Bataillon occur in the literature. Bagg states, "Arrests in the development and the production of abnormal types may be induced not only by radio activity, but by many physical or chemical agents. Abnormal temperature changes, treatment by many chemicals, lack of oxygen supply, or the over-abundance of carbon dioxide have produced marked changes in the developing embryo . . . By far the most interesting observations concern the presence of lesions similar to those described above in rat embryos, whose mother was treated with radio acrive solutions a considerable time *before* mating. In other words, the germ plasm of the mother was injured by radium and then, when pregnancy followed, the young were defective."

All these experiments indicate one important fact, which, at the risk of punning, I emphasize — *The genes need a genial environment;* that is, they need an environment which permits them to express their potentialities. Their internal structure may be altered by the environment so that new characters appear; consequently the mutation rate is increased. The internal structure may be so changed that abnormal, or defective, characters appear. A simple change in the environment may make what seems to be a definite character disappear, and a new character will appear which is as constant as the change in the environment and no more and no less.

I proceed to further important experiments emphasizing the fact that the environment can alter fundamental qualities of the individual and qualities which relate to the wellbeing of the individual and of his progeny. *The processes of ovulation and the uterine environment may be changed by environmental influences such as nutrition.*

A systematic investigation of the vaginal fluid, from the point of view of the relation of this fluid to the process of ovulation, was first systematically made in 1917 by Stockard and Papanicoloau. I refer the reader to the article by Stockard[17] for a complete description of the regular rhythm of changes which take place throughout the genital tract apparently under the influence of a hormone, which appears as the result of ovulation. The study of this vaginal secretion, or as Stockard puts it, "the vaginal smear," may serve as an indicator for any natural or experimental modification of the ovarian reaction. The effect of under-nutrition upon ovulation, that is, fundamentally upon the germ plasm, since the formation of the ovum is the work of the germ plasm, may be studied; and, similarly, the influence of other glands of internal secretion upon the ovarian reaction can be followed in life by this method.

These same authors have also written an article on the "Effect of Underfeeding on Ovulation and Oestrous Rhythm in Guinea Pigs." The effect of under-feeding produces a prolongation of the period between ovulations, called by the authors the diœstrum, and at the same time a congestion in the ovary and uterus and a degeneration of developing graafian follicles. The effect of this under-feeding depends upon the severity and upon the period between the ovulations at which it is carried out. This variation in the effect of the under-feeding, when applied at different periods of the diœstrum, is associated with the fact that the conditions of the ovary differ at the different times. The younger the follicle the less it is affected by under-feeding; whereas the graafian follicles, more fully developed, require much better nutrition. Thus a late under-feeding has a more injurious effect than an early one. "These experiments all demonstrate the sensitiveness of the follicles within the ovary to environmental conditions and when considered in more detail than is here possible, they throw light on many peculiar reproductive phenomena observed in nature. The extreme variations in the œstrous cycles recently recorded for the rat by Long and Evans (Proceedings American Association of Anatomists, Anatomical Record, April, 1920) may be in part, at least, due to the variations in the diet taken by the individuals."

These authors, Papanicoloau and Stockard, studied the formation of cystic growth in the ovary and uterus of the guinea pig. They discovered that malnutrition gives rise to marked cystic conditions in the ovary of the young guinea pigs. The changed nutritive conditions in the reproductive organs of the mother caused circulatory conversion and, as was pointed out in a previous communication, such conditions suspend the œstrous changes and prevent ovulation in these animals. The malnutrition expresses itself first within the ovary by the wholesale degeneration of developing follicles, as a result of which the cysts develop. "These experiments," conclude the authors, "seem to indicate that ovarian and parovarian cysts represent growths of persistent embryonic tissue, and that an accompanying congestion and high pressure are necessary to the formation of typical cysts, and that these conditions may result from disturbed nutrition as is demonstrated by under-feeding guinea pigs." These experiments, it seems to me, are of fundamental importance, in that they indicate that uterine and even ovarian changes may be produced by the environment and by social and cultural situations, since under-feeding can be definitely called both. They also indicate that the difference observed in children from time to time may easily be explained by a change in the social environmental conditions of the home or of the mother, such as, for example, under-nutrition which has occurred for one reason or another, in the poor due to poverty, in the well-to-do due to dieting or other causes, such as illness.

That under-feeding of the parents plays an important rôle in the under-development of the next generation is pointed out by

Friedrich von Muller in his article, "Observations during the Period of Undernutrition in Germany." He says, "The characteristic signs of avitaminosis are:

1. A diminution of fertility.
2. A retardation of development and especially of the growth of young animals and children.
3. Symptoms of malnutrition and disease in the fully developed adults."

He states further, "Abortions became frequent, in many young women menstruation ceased and in men there was a marked diminution in the libido. We can see, therefore, that there was a distinct diminution in the function of the gonads." But not only under-nutrition may bring about changes in the gonads. "Professor Stieve in Halle has shown in his experiments on mice, rats and geese that not only inanition but more so over-feeding and obesity checks fertility in both male and female, and brings about severe atrophy of the gonads. Furthermore he could demonstrate that fear, confinement and other severe *mental* influences damaged materially the power of fertility and produced an atrophy of the gonads as demonstrated by the microscope."

The German workers have done especially important work in the relationship between body and germ plasm. Starting with the notable work of O. Hertwig, a long line of distinguished biologists and medical men have contributed to this problem. Of special interest and importance in relationship to the point of view which is here set forth is the work of Professor H. Stieve of Halle[16]. In a long series of elaborate researches, he has discussed "Die Wechselbeziehungen zwischen Gesamtkörper und Keimdrüsen" (that is, his researches on the interrelationship between the organism and the reproductive glands).

Thus, in a research on the male goose ("16 Mastversuche an männlichen Gänsen," Arch. f. Entwickelungswech. Bd. 52, 1922, p. 313–362) he points out the relationship existing between the sexual activity of this animal and nutrition. Just prior to and during the period of heat, the testicles of this bird increase in weight and in content in remarkable fashion, while at the same time the general bodily weight greatly diminishes. If the goose is fattened and restricted in activity in the period of sexual inactivity, the body weight increases enormously and there is a definite retardation of the growth and development of the testicles, more especially of the generative cells, so that the process of evolution of the germ plasm into mature spermatozoa is altered, delayed, and in a general way injured by the over-feeding. Even in the period of heat itself, when forced feeding does not have anywhere near the fattening effect that it has in the period of sexual rest, the sexual evolution is definitely altered with definite structural changes in the generative part of the testicle. Thus, in this animal, with its definite interrelationship between diet and sexual activity, alteration in the dietary habit produces alteration in the structure and function of the generative part of the testicle itself. In other words, the germ plasm is definitely altered by nutrition.

In a very significant research (VI. — "Der Einfluss des Coffeins auf die Fortpflanzung des Russenkaninchens" — Zeitschr. f. mikr.-anatom. Forschung, Bd. 15, 1928, p. 599–652), Professor Stieve studied the effect of caffeine on the Russian guinea pig. One can only say that this author's articles must be read in the original to appreciate the carefulness of the study and the thoroughness and scientific spirit which animates his researches. It must be emphasized that what appertains to the guinea pig does not necessarily appertain to man, and that the following statements regarding the effect of caffeine on germ plasm are not to be applied to the human being. What is here adduced is evidence that germ plasm, like all other living tissues, resists environmental injury, succumbs to environmental injury, may show elective and specific weakness to environmental forces, and even may become adjusted to environmental agents, and finally acquire tolerance for those forces just as living tissue in general does.

I cite the author's summing up of his research:

"In these researches, Russian guinea pigs were injected with a 2 per cent solution of caffeine in physiological salt solution kept at body temperature. The lethal dose in general is .2 grams of caffeine each kg. of body weight.

"The animals acquire a tolerance up to a certain point to this poison, so that after some handling, the lethal dose became increased and larger doses could be given for several days, one after the other.

"Smaller doses up to .15 grams each kg. of the body weight could be given for months without producing noteworthy changes in the general wellbeing or without producing disease manifestations.

"If larger doses were given during a longer period, then the body weight diminished, the guinea pigs developed convulsions, paralysis of the hind legs appeared, and the hair fell out. All these symptoms gradually disappeared when no more caffeine was given.

"Only in the case of such guinea pigs in whom the above-stated symptoms of the general organism appeared could changes in the reproductive glands be shown, and these were of the degenerative types which regularly appear in the ovaries and testicles when they are injured. The ovaries were more sensitive and more easily injured through caffeine than the testicles. Animals in whom these degenerative changes in the reproductive glands appeared became sterile.

"But also those guinea pigs who for a longer or shorter period received small doses of caffeine, and in whose case no changes in the general organism and in the reproductive glands could be shown, were greatly injured in their reproductive function.

"In the case of the male, the sexual power and desire was not injured by medium doses of caffeine, but three-quarters of their offspring died in the first week after birth.

"If the females were treated with the caffeine before mating, heat appeared as usual, and they accepted the attentions of the male, but had far less offspring than when untreated by the caffeine. The diminution in fertility involved about three-quarters of the eggs of the caffeine-treated females.

"This injury of the ova appeared when the caffeine was given for only a few days before the mating."

LONGEVITY AND NUTRITION

One of the favorite stamping grounds of statistical analysis has been to prove that longevity was a matter of heredity of germ plasm fundamentally independent of the environment. The reason that people died young, in the main and in the mass, was because they did not have the kind of germ plasm by which to live long, an obvious sort of conclusion since unless the germ plasm had the capacity to produce a long-lived individual, the long-lived individual would not exist. But the emphasis upon the germ plasm as the main and, perhaps, sole factor is open to all the objections inherent in this doctrine, namely the germ plasm can be destroyed, that it can be thwarted, and that its capacity cannot possibly be known except as it operates in an environment. Tons of statistics are not worth an ounce of experiment, and the ounce of experiment has recently been performed by H. C. Sherman and H. L. Campbell. "Four hundred rats, all of the same heredity and living under conditions alike in all other respects, were kept in about equal numbers on two different dietaries — both nutritionally adequate wheat-and-milk mixtures, but differing in the proportions of milk in the food mixture. Although the diet with the lower proportion of milk was definitely shown to be adequate, the animals receiving food containing the higher proportion of milk lived, on the average, 10 per cent longer — a significant gain in longevity. Critical examination of the results from a statistical point of view indicated that there was not more than one chance in a hundred that this result could have been accidental or due to the natural physiologic variability of the animals. The superior longevity induced by the improvement of the already adequate diet was further shown in the fact that much larger percentages, both of males and of females, attained more definite standards of longevity on the improved than on the original dietary. The investigators also point out that this gain in longevity resulted from a single and simple dietary improvement, and that it is altogether probable that the better of the two diets here studied is susceptible of being still further improved." This is a very much better way of understanding longevity than by studying tombstones and records without taking into account social conditions, such as diet, for certainly a superior diet is an environmental diet, since no individual by his germ plasm creates his diet.

III. *Experiments Tending to Show a Lamarckian Transmission of the Use of Intelligence.* I cite the following experiments with some degree of misgiving in these days when to be a Lamarckian is to confess oneself naïve and unscientific. I cite them because they are fundamentally in line with what the Freudians call "wish fulfillment."

The experiments of William T. MacDougall[11] are of great importance, and though they need verification by others, it seems to me that his work has been done in a fine scientific temper, even though he frankly is looking for proof of Lamarckian transmission of intelligence. Using rats of known stocks, he utilized ingenious water-land mazes, and trained the animals to circumvent electrically charged planks, to get at food, etc. This was carried on for many generations, and at the end, he believes that the descendants of the trained animals did significantly better than animals of similar stock whose ancestors had not been trained. Of great interest to the psychiatrist is that early in the experiment, there occurred what MacDougall calls an hereditary phobia for the disagreeable situation, one which balked the experiment for a long time. The only criticism I have to make is that MacDougall has not enough cases to be beyond statistical reproach. It seems to me that adaptation to new situations in which animals find themselves, for example such as the advent of man, must take place on the basis of some acquired-hereditary mechanism, some increase in skill and knowledge which is transmitted in the modification of germ plasm through the experience of the ancestors.

Of significance is the experiment of D. Carleton MacDowell[10], showing that toxic substances may injure the learning capacity of animals. He states, "An attempt was made to control or modify normal inheritance with particular attention to mental conditions as revealed in behavior. White rats treated with maximal doses of alcohol fumes daily for twenty-eight days before and during training took more time per trial in running a circular maze than did their untreated brothers and sisters. The criteria involving perfect trials give results that tend in the same direction as those given by the data on time, but they are less conclusive and definite. The treatment of the parents as well as the rats themselves caused no more modification in maze behavior than was found in the rats originally treated, namely, a tendency to retard learning; but the tendency with the small numbers involved is either on or below the borderline of statistical significance. A small but consistent modification of the maze behavior of the untreated offspring from treated parents was found; this appeared more clearly in the criteria from perfect trials than in the time per trial. Untreated rats from parents treated with mild doses showed no difference in their maze behavior from the controls. The following generalization is reached: Alcoholism in ancestors may modify the behavior of untreated descendants."

SOCIAL EXPERIMENTS WITH PLACED-OUT CHILDREN

Of more direct importance to us are those social experiments with placed-out children, which indicate that the children placed in foster homes tend to resemble their foster brothers and sisters more than they do the people to whom they are biologically related. Contradictory reports have emanated from the orphanages. The studies done in connection with these institutions have had in mind that the orphanages constitute a uniform environment, in which they test out the value of environment. Most of the work done has not taken account of the fact that the very earliest years are of fundamental importance; that most children come to orphanages with a mentality already stamped out by their early environment. Without citing the literature, it may be stated that some of the articles attempt to show that the uniform environment tends to bring about rather uniform results in the intelligence of the children, in that the brighter children slacken down in their I. Q.'s, while the less bright tend to come up. Other papers indicate that the uniform environment has no effect. I cite one of the latest pieces of work upon this subject and one which seems to me to have been made candidly, without prejudice, and with a sufficient number of cases, the monograph by Frank Freeman,[5] Karl Holzinger,[5] and Blythe Mitchell[5]:

This study, made under the auspices of the University of

Chicago, was a deliberate effort to discover whether the intelligence of the child is affected by the characters of the environment. They define intelligence very simply, as the quality of a person's behavior in dealing with intellectual problems. It is measured by the score which the individual makes upon adequate tests of intelligence. The tests used were the Stanford revision of the Binet-Simon Scale and the International Group Mental tests. Their idea was to compare persons who are alike in heredity, but who have been subjected to different environments, and, on the other hand, those who have diverse heredity, but have been under the influence of the same or of similar environment. The children tested were divided into groups, one a pre-test group who were children who had been given a Binet test before they were placed in their present homes. The authors summarize as follows:

"The main problem of this investigation was the measurement of the effect of environment upon the intelligence of foster children. The detailed procedure by which this measurement was made has been described in the foregoing pages. This summary includes only a brief statement of the more important comparisons made and the conclusions which seem to be warranted.

"1. A group of children were tested before placement and then retested after several years of residence in a foster home. A comparison of their ratings on the two tests gave evidence of a significant improvement in intelligence (as measured by intelligence test scores). A study of certain sub-groups showed that the children in the better foster homes gained considerably more than did those in the poorer homes. Furthermore, the children who were tested and adopted at an early age gained more than those adopted at a later age. These facts appear to indicate that an improvement in environment produces a gain in intelligence.

"2. A comparison was made between the intelligence of siblings (brothers and sisters) who had been reared in different foster homes. The correlation between their intelligence was found to be lower than that usually found for siblings raised together. The usual coefficient of fraternal resemblance is about .50, but it was found that for siblings separated before either of the pair was six years of age, the correlation was only .25. When the comparison was made for those whose foster homes were of different grade, the correlation was found to be only .19. These facts make it appear that a part of the resemblance between siblings reared together is due to the influence of a similar environment.

"3. A group of siblings was divided into two groups by putting into one group the member of each pair who was in the better foster home and into the other group the one in the poorer home. The mean I. Q. of the group in the poorer homes was found to be 86, while that of those in the better homes was 95. An analysis of the conditions of adoption made it seem unlikely that there was any marked tendency for the brighter member of a pair of siblings to be taken into the better foster home. A random formation of two groups from pairs of siblings would give groups of equal intelligence. The superior intelligence of the siblings in the better homes appears, therefore, to give evidence that the character of the home affects the child's intelligence to a marked degree.

"4. Two unrelated children reared in the same home were found to resemble one another in intelligence. The correlations between the intelligence of such unrelated pairs ranged from .25 to .37. This resemblance is probably due for the most part to the similarity of their environment.

"5. The available information on the own parents of the foster children indicated that a large percentage were of defective mentality. If heredity were the only factor in the determination of intelligence, it would be expected that their children would be decidedly below the average. It was found, however, that their mean I. Q. was practically equal to the standard for children in general. Only 3.7 per cent rated below 70, and these were those placed at relatively late ages. These facts seem to point quite clearly to the influence of environment upon intelligence.

"6. In the case of 26 children studied, both parents were rated as feeble-minded. If intelligence were inherited according to the Mendelian law, all of these children would be feeble-minded. It was found, however, that only four had an I. Q. below 70 and these only slightly below. The average I. Q. of 81 for these 26 children is higher than would be expected according to the Mendelian law, but is considerably below that of the entire group of children studied. These facts appear to indicate that heredity and environment are both influential factors in the development of intelligence.

"7. The school progress of the children studied compares very favorably with that of the children in several large school systems.

"8. In various groups comparisons were made between the intelligence of the children and the grade of foster home in which they had been reared. For the entire group of 401, the correlation between home rating and intelligence was found to be .48. The correlation between the intelligence of the children and the intelligence of their foster parents as measured by the Otis test was found to be .37. In the case of the children who had been tested before adoption, an initial correlation of .34 with home rating was raised to .52 after a period of residence in the foster home. These correlations would indicate that the character of the home is an important factor in the development of the child's intelligence.

"9. The influence of the home is further shown by the fact that there is a correlation between early placement and intelligence and a slight relationship between the child's intelligence and the length of time he has spent in the foster home.

"10. A large percentage of the children studied had parents who were morally defective. In spite of this poor heredity, however, few cases of serious misbehavior were found among the foster children. It seems probable, therefore, that environment has been an important factor in determining their conduct.

"11. In interpreting certain data of the study, it was necessary to know whether the apparent effect of good home environment could be accounted for by a selection of initially bright children by superior foster parents. The analysis of the data led to the conclusion that selection was not a large factor in the relationships. In the extreme cases in which the children were given a mental test before adoption, the correlation between this initial I. Q. and home rating was .34. In over eighty per cent of the cases no test was made before adoption. Furthermore, a survey of the circumstances of adoption indicates that the intelligence of the child is not usually taken into account as a major consideration. Finally, for certain groups in which it would have been least possible to estimate the intelligence of the child, the correlation with home rating is as high as for other groups."

If this piece of work is, upon analysis, discovered to be authentic, and I am frank to say that I am unable to judge because of an incapacity to deal by statistical methods with the data as presented and interpreted by the authors, then environment plays a rôle in the development of intelligence — a rôle of importance and one to be weighed in considering the case of each individual child.

Identical Twins

Of interest is the experience with identical twins. Theoretically identical twins are what the term implies — identical in temperament and intelligence. That this is in large measure practically true is confirmed by daily experience. I cite the results which were obtained in two cases of identical twins reared apart and separated at a very early age; in the one case when two weeks old, in the other at the age of eighteen months. These sets of twins were very carefully and thoroughly studied. They are reported by H. H. Newman[14] and by H. J. Muller[13].

Muller's [13] twins, B and J, who were separated when they were two weeks old, were brought up by foster parents who did mining, logging and hauling. B often shifted territory and had only four years of formal schooling, including nine months in business college. The other twin's foster parents were in better financial condition. J was in the midst of many and lively people, went through high school and did summer work in a university. The health history is that B was the more sickly, had a poor infancy, and both girls have had tuberculosis. B had a nervous breakdown in her late teens, and J was on the verge of one. By the intelligence tests they score very superior intelligence and very closely together. The psychological tests for other states, the results for the emotions and will-temperament tests showed considerable difference in their personality. *There was, thus, almost no difference in intelligence but considerable difference in personality and emotional reaction.*

Newman's[14] twins were O and A. O's environment was more favorable; she was an only child and had a good social status. A lived in a crowded deteriorated district and got little attention, as the foster parents had four other children. The author made very many tests and states as follows: "By the Stanford-Binet test the difference in I. Q. was 12, which is considerably over twice the average noted in identical twins reared together. The difference in mental age was 23 months, which is nearly three times as great as the average of identical twins reared together. On the Thurstone Psychological tests A ranked .184, O .0697. In a group of 100 students O would be thirtieth from the top; while A would be thirty-second. These differences were maintained on the Otis Self-Administering Test, the International Test, the Stanford Achievements. On the Downey Individual Will-Temperament Tests the girls were very much alike. On the Kent Rosanoff Association tests the twins reacted nearly identically. In the Pressy X-O Tests for emotion the results were similar. In the Strong Vocational Interest Blank there was very much resemblance. The conclusion of this author is: "*The general conclusion might be that in this pair of twins differences in environment and training have been responsible for bringing about a significantly great divergence in intellectual, but that their temperamental, or emotion traits, have remained unusually similar.*"

So that of these two pairs of identical twins the environment may be accused of bringing about differences in emotion in one set and difference in intelligence in the other. The two sets of twins may be used to cancel one another, and the conclusion reached that nothing has been proven whatsoever; or it may well be argued that both intelligence and emotion are altered even in identical twins by differences in environment.

Medical men from earliest days have believed that the environment may bring about changes in personality, intelligence and the like. I need only cite Tredgold as, so to speak, representative of a very large group. In an article entitled "Educability and Inheritance," he states as follows: "To summarize the chief points regarding educability we may say:

1. The degree of educability varies in different individuals, being determined by an innate potentiality for mental development which cannot be exceeded; this applies equally to what is known as general ability and to special aptitudes. The full realization of this potentiality necessitates an optimum environment, under which term is included the stimulus of education. Since the environment never is perfect, it is doubtful whether any individual attains the full development of which he is inherently capable."

Until they fell under the spell of the biologists, medical men believed that environment might do almost anything to individuals, including the creation of inferior stocks which persisted as inferior. As a group, biologists regard this as a naïve conclusion, and statisticians complete the rout of opinion on this point. But with the advent of the knowledge of the internal glands and the utilization of experimental methods to change germ plasm activities, it has come to pass that the medical man no longer need apologize for believing that environment in one form or another, whether it be alcohol, syphilis, lead, or even poor social cultural conditions, may interfere with the potentiality of the hereditary substance, so that an individual does not realize his full capacity and may present himself as defective because he remains incompletely evolved. He may even believe, on the basis of authentic experimentation done by biologists and medical men, that the descendants of an injured individual may continue injured for several generations; that there may exist disease of the germ plasm which persists for several generations, goes on to recovery or destruction, just as there are diseases of the individual which have a time curve of onset, course, recovery or death.

The belief of a great many psychologists, biologists and medical men that intelligence and mental development are fundamentally independent of environment may be compared to the belief of those philosophers of the Berkeley school, who were finally led to believe that everything that seemed to exist was created by their consciousness, and reached the absurdity of solipsism. In neither case do the individuals holding these beliefs live up to them. The philosophers of the idealist school act as if people, books, chairs were real things and had an independent existence. They behave exactly like those individuals who naïvely accept the reality of the things they think they see and hear. A philosopher of this school buys automobiles, courts his lady-love, eats his meat and drinks his coffee in about the same way and with the same show of belief in their reality as does the man who has never heard of Berkeley or of any philosopher. Similarly with the psychologists who like to say that intelligence is dependent upon heredity rather than in any appreciable degree upon environment. *They act as if it were entirely dependent upon environment.* They take extreme care that their children are born properly. They have the best obstetricians that they can afford. They see to it that their children are given the best hygienic conditions possible in their early years. They follow every development in medical science closely. Their children get cod liver oil, green vegetables and sunlight. They are careful that healthy people surround them; they guard them from infection and from injury; they start to teach them good English early. They send them to the best schools within their means, often enough to private schools. They exercise more or less care as to the nature of the associates of their children and deliberately avoid the contamination exercised upon the young children by bad example. They would be hurt beyond measure if they could not afford to send their child to a summer camp or to give him plenty of rest and recreation. In other words, they act as if all of these things were of fundamental importance to the development of the intelligence and the personality of the child, which indeed they are.

As a working hypothesis for medicine and for society, in the understanding of feeble-mindedness, the theory that the gene needs a genial environment and that the gene can be injured by a non-genial environment, is here set forth as the basis of future work on feeble-mindedness. I do not deny that the interior forces we call heredity are of high importance. I state that the gene is constantly bombarded by the environment, constantly under its influence, and, however stable it tends to be, is susceptible to changes in its environment. This working hypothesis states that the feeble-minded, on the whole, resemble individuals who have been hurt by the environment, and that even where feeble-mindedness occurs for generation after generation, it is the result of environmental injury making itself felt through several generations. The mechanism of this injury may be a single blow to the germ plasm, the effects of which persist for several generations, or it may be a constantly bad environment operating uninterruptedly upon the germ plasm of each generation. There may even be such a thing, as is indicated by the experiments of

MacDowell and MacDougall, as a hereditary learning capacity, injured or increased by environmental influences. The separation of the germ plasm from the environment is a biological fiction without reality. The conception of the germ plasm and environment as in constant interrelation can be made evident to any one who has operated upon a testicle or ovary and watched the blood stream pass through these organs carrying with it nutrition, adequate or inadequate, and infection, lethal or non-lethal.

This hypothesis does not directly interfere with any program which will have for its purpose the sterilization of the known feeble-minded. That this is possible in the present state of our social development belongs in the same type of belief that morals can be improved by legislation. Those who believe it think that their theories will be accepted by the mass of humanity and that the reproductive instincts can be controlled by intelligence. It may be that in some far distant future the mass of mankind will consent to eugenic marriages and eugenic sterilization; this does not seem at all possible at the present time. The experiences with prohibition might convince any socially observant person that sexual bootleggers would nullify any sterilization eugenical program.

I suggest to some great foundation that it stop subsidizing researches which tell us the number of feeble-minded found in any community or town, that it no longer subsidize the kind of statistical gossip which at present passes as one of the phases of eugenics. Nothing is gained by the multiplication of uncertain researches, except, perhaps, to keep alive the interest in the subject. Let us subsidize instead the removal as soon as born of children who come into low-grade families, perhaps in families where the advent of the new child is a great burden and where the parents will willingly give it up for the sake of having it adequately cared for. Let the children thus experimented upon be removed to high-grade homes or placed under high-grade environmental conditions. A number of children sufficient for such a study could easily be determined by the statisticians. Then let good nutrition from the earliest days, good example and devoted education do their best. I believe that such an experiment would lessen the talk about heredity and increase the evaluation of the environment in the development of the intelligence, the character and the personality of human beings. It would be shown, I believe, what must already be apparent to those who have followed the later development of biological science: That germ plasm is a living tissue imbedded in a mass of living tissue with which it constantly interacts; that the whole organism is a bit of organic matter embedded in a huge environment which continually influences it, making for good or for ill; that these environmental forces reach through the bodily tissues and into the germ plasm, disturbing its stability, capable of destroying it, injuring it and of improving it. It seems almost presumptuous to think that the tiny mass of germ plasm of each individual is an independent entity, since all the germ plasm in the world in its sum total compares with the mass of the environment as a drop of water in the Atlantic Ocean.

I offer as a working hypothesis for psychiatry and for biological medicine the concept that the most practical working field for us is the influence of environment upon the mind and the personality of the human being. This environment needs to be studied in its minutest phases; uterine conditions ought to be a field for research, and the vaginal smear method of Stockard and Papanicoloau offers at least a hint as to how this research can be conducted. A record of intra-uterine conditions is possible; at least a more careful study of such conditions can be undertaken. Within this environment the earliest and most profound influences are asserted upon the developing individual, and yet almost no research has been carried on in this field. A careful study of nutrition before pregnancy, of the effects of infectious diseases upon ovulation needs to be instituted. It is quite possible that a defective individual occurring in a normal family may represent not a hidden Mendelian character of altogether hypothetical origin, but the effect of some passing infection upon germ plasm. The influences of the crowding of the slums, under-nutrition, infectious diseases, work in factories, and poor hygienic conditions is a more profitable study, in my opinion and according to this working hypothesis, than studies made of defective communities existing under traditions and actual physical environments which might in themselves explain in some measure their defectiveness. While alcohol and syphilis may not be the blastophthoric forces which injure germ plasm, the case certainly is not closed against their effects, and we need not confine ourselves to the mere physical conditions which surround groups of the population in an effort to discover the blastophthoric forces. The day is past when emotional states can be dismissed as merely mental. We know that a great emotion is a bodily event reaching through every tissue and changing the chemistry of the entire organism in some measure. In this field, as in every field in which the living creature is studied, the sum total of the forces operating on the human being must be taken into account. Heredity is the name given to an interior force, or set of forces, which operates fairly stably but is constantly influenced by an immense number of other forces. To explain the individual by this inner force alone is to leave out of account the rest of life in all its varied and potent aspects.

NOTE: Since this MS. was sent to the editor there has appeared H. S. Jennings' magnificent book, "The Biologic Basis of Human Nature." To those who wish to obtain a comprehensive view of the whole subject of heredity and environment this brilliant summary by a great scholar is most heartily recommended.

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MONGOLISM AND ITS TREATMENT

By WALTER TIMME, M.D.,
NEUROLOGICAL INSTITUTE, NEW YORK CITY

During the years 1920 and 1921 it was my great privilege to meet frequently with Dr. Walter E. Fernald and cooperate with him in the examination, study and treatment of many of his charges, especially the Mongols under his care at Waverley, Massachusetts. Nothing could be more courteous and helpful to one who was making a study of these cases than the attitude of Dr. Fernald toward the writer. He organized clinics and demonstrations, placed many members of his staff at my disposal and was always ready to stop any work upon which he was engaged, to be present and discuss from all angles the most interesting problem cases that presented themselves in the endocrine field. He was constantly on the alert for new methods of diagnosis — for new methods of treatment — in short, his aim in life seemed to be the amelioration and betterment of the poor defectives in his care. How well he succeeded is to be seen in the development of means and methods in the modern care of deficients and defectives. Practically all of these modern methods had their origin in Fernald's work, and Waverley under him became the Mecca of many pilgrims. I wish herewith to acknowledge my appreciation and gratitude to my friend, Walter E. Fernald, for the many favors, the extreme help and the stimulus to investigation that contact with him stirred in me. The following thesis on Mongolism was a direct result of such contact, and anything that may prove meritorious in it ought to be credited to him.

The examination of many Mongolian defectives gives as a result an impression that there are several characteristic anomalies presented by the majority — deficiencies and disproportions in growth of the skeleton, the skull and the different skeletal units; the sexual and genital difficulties, such as undescended testicles, tardy menstrual flow or even amenorrhoea; disturbances in the optic chiasm as evidenced by grayness of the optic discs, usually on the temporal sides; the redness and oedematous swelling of the retina surrounding the optic nerve head; the frequent occurrence of strabismus and the constant disturbance of the pharyngeal mucous membrane with chronic pharyngitis. One is tempted to look for some one cause or factor which might be influential in producing many, if not all, of these conditions. The anterior lobe or "pars buccalis" of the hypophysis cerebri comes very close to furnishing us with this necessary efficient factor. By its physical anatomical situation, it can produce pressure upon the optic nerve and chiasm, and upon the oculo-motor nerves; and by its metabolic systemic influence it is known to produce growth of skeleton, development of the genitals, and to have a direct bearing upon the activity of the buccal and pharyngeal mucous membrane, from which indeed it is originally formed. Should this causal relationship between the anterior lobe of the pituitary body and the Mongolian characteristics be true, then we ought to find frequent evidence of it in X-ray examinations of the sella turcica. In many such examinations, it will be noted that the anterior clinoid processes in the Mongolian sella are considerably higher arched than the normal and that the sphenoid sinus lacks considerably in development, so that the apparent anterior chamber of the sella turcica is enlarged.

In forty-five out of sixty non-selected cases of Mongolian idiocy, including twenty of my own, the radiograph of the skull showed a peculiar change from the normal in the anterior portion of the fossa pituitaria. This change consisted in a space under the anterior clinoid processes, inferior and posterior to the olivary process and optic groove, which communicated directly with the anterior portion of the fossa itself. From our knowledge, more or less exact, of the influence of the anterior lobe of the pituitary on growth and genital development, this Roentgen-ray finding is of considerable interest. Its deficiency causes subnormal and disproportionate body growth coupled with lack of genital development. Thus in boys, undescended testicles are quite frequent and in girls abnormalities of the genitals with tardy menstrual flow or even complete amenorrhoea are the rule. The intimate relationship which in early life exists between the anterior hypophysial lobe and the pharyngeal glandular elements is also recognized. Furthermore, with such abnormalities, involving at times the optic groove, eye symptoms should be of frequent occurrence. These findings, as a result of anterior lobe pituitary disturbance, closely simulate the symptoms and signs in Mongolism. To take as an example merely the findings of ophthalmologists as to optic nerve disturbances in Mongolians, we quote C. A. Oliver: "The optic discs in a number of cases are unequally grayed, especially in the deeper layers and to the temporal sides; the substance of the disc in the great majority of cases, especially where the retinal and choroidal disturbance was not pronounced, is apparently edematous; the retina surrounding the optic nerve head is edematous and swollen in many of the cases; examination for visual field disturbances could never be properly carried out through lack of cooperation."

Theoretically, therefore, disturbance of the anterior portion of the pituitary body might readily produce many of the symptoms shown clinically by Mongolian idiots. It is therefore suggested that every necropsy examination in cases of Mongolian idiocy should include a careful examination of the pituitary gland, notably in its anterior portion. Should such an examination eventuate in a corroboration of antemortem findings, perhaps a rational treatment might be forthcoming for these cases.

It is important to observe, nevertheless, that these findings of the anterior clinoids and optic groove are seen occasionally in persons who have not Mongolian characteristics, but who have isolated symptoms and signs due to anterior lobe disturbance, namely, growth and genital developmental abnormalities.

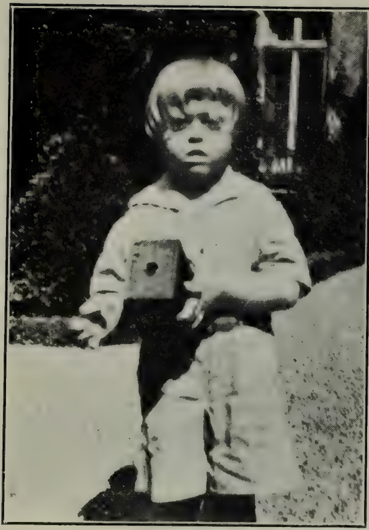
Many of my critics have stated that I declared this condition of the sella to be pathognomic of Mongolism. In contradiction, let me say that in the original contribution I distinctly stated that this picture is one occasionally seen also in persons who have *not* Mongolian characteristics. Later authors have found that a majority of Mongolians have such a sella turcica as described by me and suggestively state further that the non-Mongolian children who possess it lose the characteristic form later on in life while the Mongolians in large majority seem to retain it. That is my impression also.

Because of the suggestive relationship of the Mongoloid disturbances with changes produced by anterior lobe pituitary deficiency, and of the skull changes in the vicinity of the anterior portion of the pituitary gland, treatment was inaugurated some ten years ago with anterior lobe pituitary substance as the main and specific element. This was combined with thyroid and iodine therapy and whole gland pituitary administration as well. The combination for a two-year-old patient was about as follows:

Thyroid (Burroughs Wellcome), grain one-tenth to grain one-fourth daily.
Sodium iodide, saturated solution, two drops daily.
Pituitary substance (Armour): one capsule containing of the anterior lobe grain one to grains two, and of the whole gland from grain one-tenth to grain one-fourth; a capsule two to three times daily three hours after meals.
Later on, hypodermatic injection of antuitrin (Parke Davis), one-half ampoule twice weekly may be added.

As the child grows older, all of these are gradually increased to tolerance limit, and the antuitrin to one whole ampoule three times weekly.

Under this treatment, one first noticed the change in the skull formation, the bridge of the nose coming forward and higher so that the slant of the eyes was gradually diminished; also the back of the skull gradually rounded out, so that rotundity took the place of square headedness. Gradually also the mental state progressed, so that instead of being merely imitative, the child attained some degree of initiative, with better coördination, better concentration and memory and could be taught. At the same time a small degree of social adaptation became possible. With these changes, the child would usually become somewhat keyed-up, moderately excitable and unruly if kept among the untreated, easy-going Mongolians. The reason for this change was probably the recognition on his part of a growing difference between himself and his one-time companions. As a result, his teacher invariably stated that the child was growing unmanageable and needed stricter disciplinary measures. Indeed, these school reports in many cases had so much weight with the parents who thought of course with the teacher that they connoted a change for the worse and were due to the treatment, that the treatment was many times discontinued. Then the child would revert to the old, quiet, manageable state of the usual Mongolian. At times, of course, the medication is too stimulating, too much thyroid producing excessive nervousness, sleeplessness and irritability; too great pituitary administration giving rise to head-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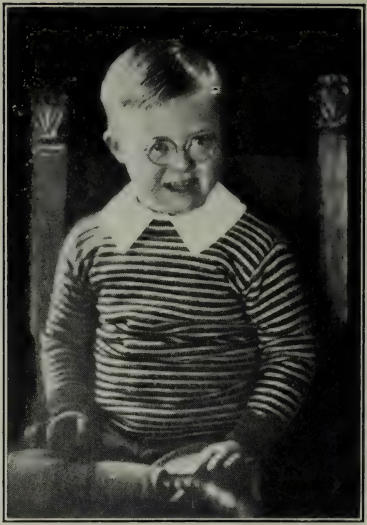
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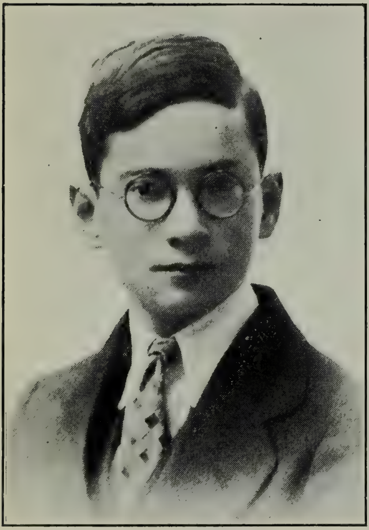
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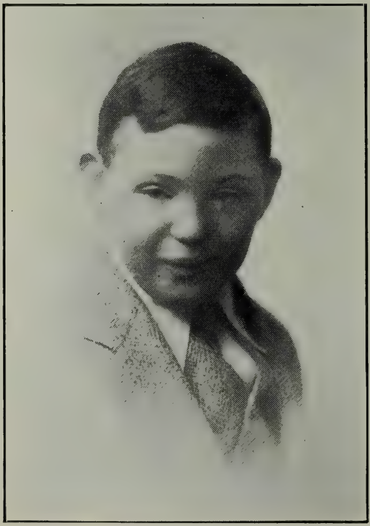
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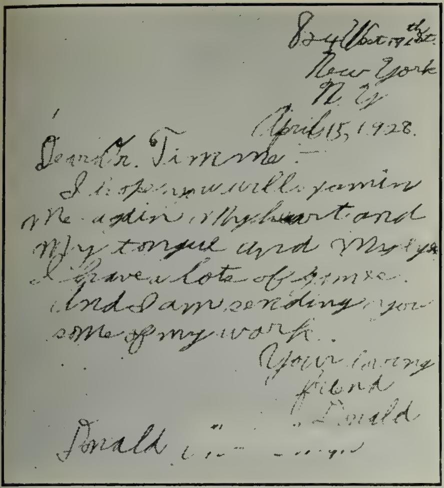


824 West 171st St.
New York
N. Y.
April 15, 1928.

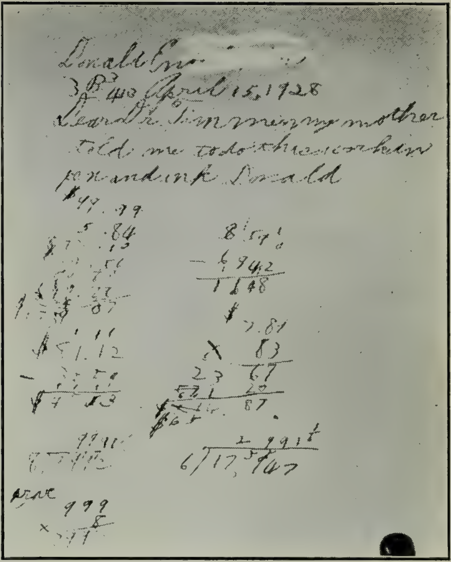
Dear Dr. Timme:

I hope you will examin me agin My heart and My tongue and My eys. I have lots of gymnas. And I am sending you some of my work.

Your loving
friend
Donald

Donald

Figure 5



Donald

3B 403 April 15, 1928

Dear Dr. Timme my mother told me to do this work in pen and ink Donald

Figure 6

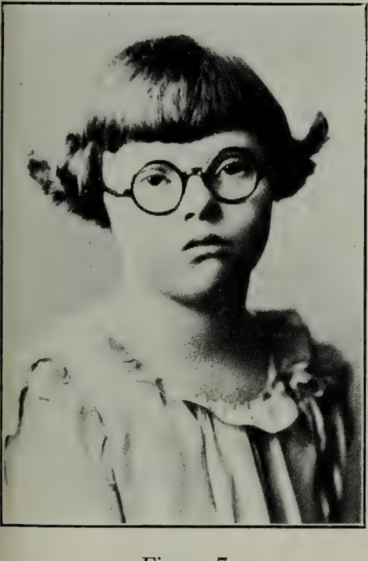
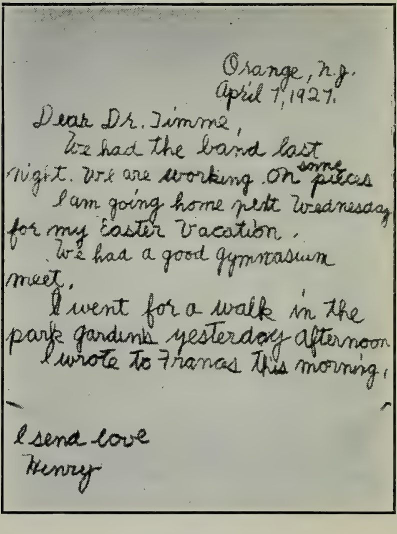


Figure 7



Orange, N. J.
April 1, 1927.

Dear Dr. Timme,

We had the band last night. We are working on some pieces

I am going home next Wednesday for my Easter Vacation.

We had a good gymnasium meet.

I went for a walk in the park gardens yesterday afternoon

I wrote to Frances this morning.

I send love
Henry

Figure 8

ache, dizziness and nausea; and the iodine its usual disagreeable consequences; but if care be taken to adjust, from time to time, those dosages, very little untoward disturbances take place. The antuitrin injections occasionally cause slight redness and swelling, but rarely so. They are followed at times with a flushing and redness of the face and a feeling of fullness in the head which is uncomfortable to the patient and causes him to complain, but their effect is quite evanescent. But quite apart from these treatment episodes, the child does become more and more of a problem as he progresses — if kept with unprogressive Mongolians — and care and intelligence must be exercised in explaining this to both teacher and parents.

The important thing to remember about the treatment is the necessity for its persistence year after year — it may even be considered in the light of a food — a biochemical one — and just as important as are vitamins to normal health. During the summer months we usually diminish the quantity of administration either by lowering the individual doses or by giving the glandular products for three weeks a month only. Many of the patients, living at great distances, can very readily be treated by their own physicians at home if these be instructed fully and carefully as to the dosage and care in giving the necessary medicaments. But at least twice yearly should such patients be brought in for personal observation and checking-up. The urine should be examined during pituitary medication, especially for albumin and casts, as irritation may occur in the genito-urinary tract; an analysis every few weeks is therefore advisable.

To illustrate the results obtained by this treatment I shall show some of my patients and their work. Figure 1 shows one of our Mongolians some years ago. Figure 2 shows him at the present time. The change in features needs hardly to be commented upon. Figure 3 shows a boy now fifteen years of age with hardly a trace of his original characteristics present. Figure 4 shows a boy of eight years, still retaining many Mongolian appearances but who has made such remarkable advance in mentality that his intelligence quotient, taken several times by different examiners is between 90 and 95 per cent! This is something heretofore unrecorded for Mongolian *idiocy!* This boy can do mental arithmetic of such character as this; seven plus five plus six minus four plus nine minus eight and multiply the answer by three; and the answer is forthcoming as soon almost as the last number of the problem is uttered. He can do multiplication and division, and a sample of his work is shown in Figure 6. A specimen of his letter writing (original — not from copy or dictation) is seen in Figure 5. This boy was on treatment from the first year of life continuously to the present time. Figure 7 shows a girl of twelve and a half years of age who, while poor at figures, reads excellently well, and comports herself among normal children and adults in a manner commensurate with her chronological age. She has poise and presence. Figure 8 shows an original letter of the patient seen as Figure 3. This patient is also poor at figures, but excellent in poise and bearing, writes and reads very well and is in a fair way to become self-supporting if necessary. He was perhaps not a full-fledged Mongolian when first treated, lacking several of the characteristics, but was a border-line case. The others of the patients described were all typical out-and-out Mongolians with all the stigmata.

It is my opinion, in closing, that the inefficiency of the anterior lobe of the pituitary gland (pars buccalis) is one of the important factors which produces Mongolism. Perhaps it is not the only one; and what is certain also is that the glandular products that we use in treatment are only moderately effective and do not represent the full value of the anterior lobe secretion; but that in spite of these limitations this treatment represents an advance in our therapy of the unfortunate Mongolians.

REMARKS ON THE PATHOLOGY OF THE FEEBLE-MINDED

By Oscar J. Raeder, M.D.,

CHIEF OF THE OUT-PATIENT DEPARTMENT, BOSTON PSYCHOPATHIC HOSPITAL

and

Myrtelle M. Canavan, M.D.,

CURATOR OF THE WARREN ANATOMICAL MUSEUM OF THE HARVARD UNIVERSITY MEDICAL SCHOOL

Summary

a. Scope of the Waverley Researches in the Pathology of the Feeble-minded;

b. Advances in the pathology of the feeble-minded since the publication of the Waverley Researches in 1921.

In 1913, under the auspices of the Massachusetts School for the Feeble-minded, now the Walter E. Fernald School for the Feeble-minded, a series of systematic scientific researches into the pathology of the feeble-minded was conceived and work for their execution inaugurated by Elmer E. Southard and Walter E. Fernald. This combination of authors: Dr. W. E. Fernald, eminent clinical master in the examination and treatment of the feeble-minded, and Dr. E. E. Southard, artist in neuropathology and thinker at large in psychiatry and in general as well as medical science, was a peculiarly happy one. With the aid of their collaborators, they produced two volumes under the caption of Waverley Researches in the Pathology of the Feeble-minded. These volumes were published as memoirs of the American Academy of Science. The first series, with Dr. Annie E. Taft as collaborator, appeared in 1919 as Volume XIV, No. II; and the second series, with Dr. Annie E. Taft, Dr. Myrtelle M. Canavan, and Dr. Oscar Raeder as collaborators, was published in September, 1921, as Volume XIV, No. III, of the Memoirs of the Academy. This comprehensive work was conceived with the idea of working up a large series of feeble-minded cases, tentatively set at fifty, with clinical and pathological correlations which could be used as a basis for drawing some general conclusions on the problem of the feeble-minded which looks so large today as a social evil. In the first chapter of the first series, the world's work in pathology of the feeble-minded was oriented and brought up to date, and an extensive programme was organized to carry the work forward. Material has since been collected for the third, fourth, and fifth series of ten cases, and much histological work of the third series has been completed. This work, though tedious and of necessity slow and time-consuming, should nevertheless be carried on to the goal set for it by the authors.

In this work, Fernald and Southard were the first to attempt to match testable mind with measurable brain by applying psychological tests of Binet and Simon as developed by Yerkes, Healy, Terman, Kuhlman, and others, to a large series of cases carefully studied clinically by the method of Fernald (Fernald's ten point clinical examination), and extensively examined neuropathologically. In all these cases, which had been completely examined clinically and followed through their course, a complete autopsy was performed, and the material of the central nervous system was studied most minutely. From each hemisphere, twenty blocks were selected from different areas according to Southard's method. Each of these blocks was in turn divided into several smaller blocks, which were then subjected to various staining methods, such as the Nissl cell stain, the Bielschowsky silver impregnation stain, fat stains, and finally Weigert's myelin sheath stain. After sections from all these blocks were examined, a critical summary of the findings was made in each case, and then the cases were reviewed in relation to each other. Furthermore, large sections were made for the study of fiber parts, and sections of the cerebellum were studied. The results of these studies on the first two series have been published. A particularly striking plate was added in the second volume which showed a comparison between the first twenty cases arranged according to their intelligence level in one row, and according to their relative evaluation from an anatomical standpoint in a parallel row. This indicated that in a general way the brains which showed the highest degree of anatomical normality also had functioned best as tested by the psychological and other clinical examinations; and the small, simplified brains also correspondingly showed the lowest degrees of intelligence. There were, however, several noteworthy exceptions; one, Case 3, in which a small brain of rather simple pattern showed a comparatively high intelligence level; and on the other hand, page 14, a large brain with fairly complex evolutions and fairly normal-appearing physically, showed a comparatively low degree of intelligence. This demonstrates clearly that another factor (or factors) not demonstrable by the histopathological methods above delineated, plays an important rôle in the function of the brain cells.

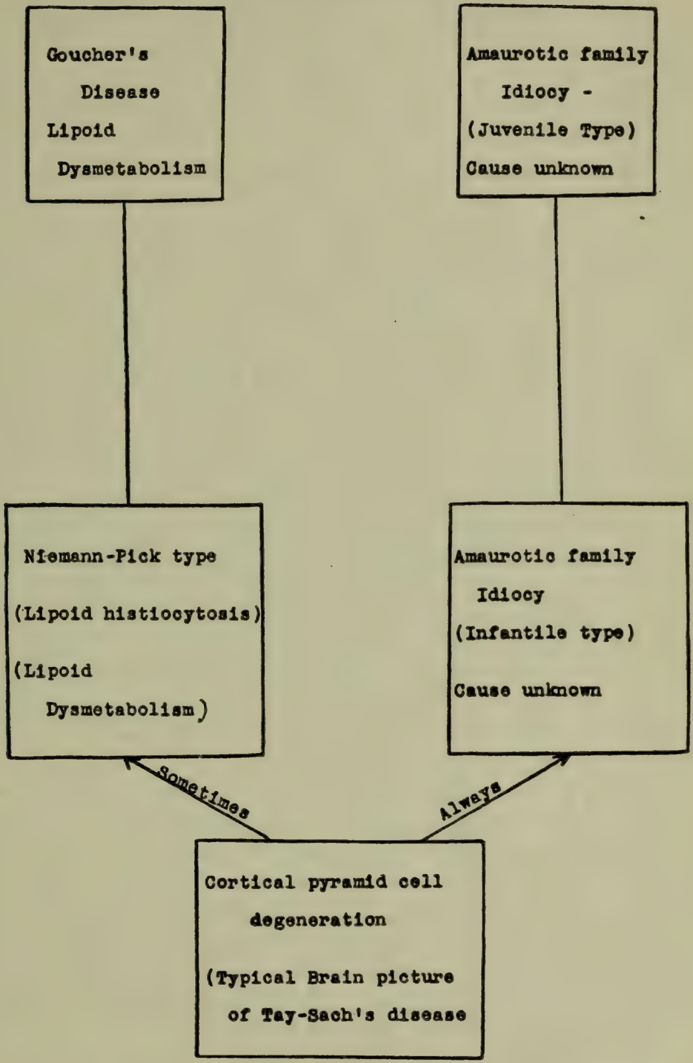
Since the publication of the above-mentioned two volumes of the Waverley Researches, no evidence of any concerted attack on the neuropathology of feeble-mindedness has appeared. There have, however, been some notable individual contributions on specific cases of feeble-mindedness, particularly on amaurotic family idiocy and Mongolian idiocy. The most important discovery has been that in regard to the former. In this regard, certain investigations and findings have shown that it is possible that amaurotic family idiocy is simply a by-product in a general disease of the whole organism which is in the nature of a dysmetabolism. Bielschowsky[1], 1928, has summarized these studies in an extensive article entitled, "Amaurotic Idiocy and Splenohepatomegalie with Lipoid Cell Infiltration."

In 1914, Niemann[2] reported a peculiar disease in an infant girl of eighteen months, which showed some points of resemblance to Goucher's disease but which was clinically different. Later on, other cases were reported, all in infants. Still later, Pick[3] studied some cases of this type and carefully differentiated this condition from Goucher's disease. Goucher's disease, it will be recalled, is characterized by enlarged spleen and liver, with an infiltration of large mononuclear cells of an endothelial type, so-called histiocytes, which are characterized by an accumulation of a lipoid substance in their cell bodies. From their appearance they have been called foam cells. These foam cells with lipoid deposits are found in the liver, spleen, lymph glands and bone marrow. Chemically it has been definitely determined that the lipoid substance is kerasin. The onset of Goucher's disease occurs usually before the age of twelve years, runs a chronic course, even to old age, with little interference with general health. The Niemann-Pick type of Goucher's disease, on the contrary, is a condition that arises in the early months of life, runs a rapidly progressive course, and ends lethally usually before the end of the second year. In this condition, we have the infiltration of the lipoids not only limited to the tissues mentioned in Goucher's disease, but flowing over into practically all tissues of the body, even the cartilage cells. This invasion becomes so extensive that there is a complete suffocation of the functions of the vital organs. The children attacked show a rapid decline, both physically and mentally. They are unable to sit up even at the age of twelve or fourteen months. There is an early enlargement of the abdomen, and they show a pale brown discoloration of the skin; the liver and spleen are enormously enlarged, and there is a slight leucocytosis, as high as 20,000. Apt and Bloom[4] stated that blood examinations were made in four cases and that in three of them there was a definite increase in cholesterol and fatty acids, while in the other the lipoids were at the upper limit of normal. Bloom and Kern[5], 1927, showed that the stored substance in the spleen of lipoid histiocytosis (Niemann-Pick type) is mainly a phosphotid. Pick regards this disease as a disturbance of the phosphotid and especially the lecithin metabolism, in contradistinction to the cause of Goucher's disease, which is a metabolism disturbance caused by a kerasin which is a galactosid from brain substance.

Recently, Oberling and Woringer reported some cases in which there were four children of the same family who died one year after birth and all four showed typical enlargement of the liver and spleen, and in two cases the diagnosis Niemann-Pick disease was verified by pathological examination. They pointed out that in some of their cases the typical brain changes of amaurotic family idiocy were found. This had never been shown in Goucher's disease of the adult type. These cortical changes will be described below. It will be seen, therefore, as shown in the accompanying figure, that there are two forms of Goucher's disease: one, the adults', known to be a disturbance of lipoid metabolism; and the infantile type of this condition, which is probably also a disturbance of metabolism, the exact nature of which has not yet been verified. We have corresponding to these two conditions, an amaurotic family idiocy of the juvenile type and described by Spielmeyer and Bielschowsky, which runs a protracted course and resembles somewhat the course in Goucher's disease, and an infantile type of amaurotic family disease proper which runs an acute course in early infancy, with blindness, dementia, and death, corresponding to the Niemann-Pick type. Now it has been shown by Oberling and Woringer that the cardinal symptoms of Tay-Sachs' disease occur in some cases of the Niemann-Pick type of Goucher's disease. It begins to appear, therefore, that the types of amaurotic family idiocy are also due to a metabolic disturbance, probably of the lipoid metabolism. It is a relatively new fact that certain definite disease pictures are continued by lipoid dysmetabolism, just as diabetic conditions are caused by a carbohydrate dysmetabolism. We begin to speculate what light, therefore, the study of diabetic children who by virtue of the discovery of insulin are now for the first time growing to adulthood, may throw upon this problem. In the article of Oberling and Woringer as quoted above by Bielschowsky, extensive cortical changes in those cases of Pick's disease which showed the cardinal symptoms of amaurotic family idiocy were described. The changes were especially marked in the parietal and occipital areas of the cerebral hemispheres, but nowhere was the cortex entirely unchanged. The disease process was found to be localized more or less to the third layer of the cortex, and the large and medium-sized pyramids were especially diseased. There was a marked lack of contrast in staining between the cell bodies and their prolongations in the affected pyramids. This could be seen by low magnification. Many showed the picture of Nissl's chronic cell degeneration; others were vacuolated. When the vacuoles were small and numerous, the cell assumed a sieve-like appearance. When one large vacuole formed, it occupied the cell body entirely and the nucleus was pushed aside. In this event, the cell body had a swollen appearance. Often the vacuoles penetrated the cell processes and caused the latter to resemble in appearance a string of pearls. Very little neurogliosis was found. It was possible to notice a diffuse increase in the glia. The well-known changes incident to neuronphage were never seen. Furthermore, it was ascertained that a cytolosis of the ganglion cells never occurred, but that the markedly changed cells continued to remain as if mummified. The cells of the basal ganglii and the Purkinje cells remained unaffected. It was the cerebral cortex alone, as has been said, which was diseased.

A great deal of interest has been shown in the past few years in the study of Mongolian idiocy. Extensive monographs, mostly of a clinical nature, have found their way into the neuropathology of this peculiar idiocy. Van der Scheer[7] has issued a pamphlet in which he attempts to establish the cause of Mongolian idiocy on the basis of a mal-development beginning in early foetal life. The principal conclusions are that Mongolism belongs to the morphological series of malformations in which the picture is controlled by median skull defects; secondly, that all anomalies can be explained as a result of deficient size of the amniotic sac which produces its most harmful effects in the sixth and seventh weeks of foetal life. The amniotic defect arises from faulty implantation in an abnormal uterine mucosa, according

Fig. I.



to this author. The manifestations that become evident in later life, as the metabolic disturbances, the trophic, the dystrophies, and the abnormal psychic phenomena, he thinks can be explained by hypoplasia of the diencephalon, with defective development of the centres of the vegetative autonomic nervous system. In the study of the neuropathology of Mongolism, Davidoff[8], reports results in a careful and accurate histopathological examination of ten cases. Besides finding a paucity of cells in the cortex in general, he makes the interesting new observation that the pyramids of the third cortical layer are especially deficient in this disease also, this having been shown to be the case in general states of feeble-mindedness. As to the cause of this paucity of cells, the author examined into the nature of the content of numerous gitter cells found, and by special staining showed that the granules of these cells stood the myelin reaction. He concludes, therefore, that there may have been a sufficient number of the pyramids originally formed but that a degeneration may have taken place in the first months of life since two of his cases were less than one year old. In a third and older case, he found no gitter cell myelin-staining granules present, and concluded that by this time a clearing up of the degenerative products had been completed.

He has also shown definite instances of heterotopia. Some of his cases showed pyramidal cells of no mean dimensions in the molecular layer. He also finds the usual gross changes noted by most authors, namely, simplified convolutional pattern, smallness of cerebellum, pons, and brain stem. He concludes that the brain of a Mongolian shows agenesis as evidenced by cell poverty and failure of gyral development; that there is a probable degeneration of the third layer of pyramids in early life; that there is aplasia as shown by the comparatively small size of the brain, and paragenesis as shown by the frequent occurrence of anomalies. From the neurological institute at the University of Vienna C. Inaba[9] reports some studies on the cerebral cortex in idiocy. He examined two idiot brains and one normal but relatively small brain from a person of normal intelligence, and he concluded that the outer layers of the cerebral cortex are more essential than the inner for intelligence; also that it is chiefly the cells of the second layer and external parts of the third layer and the tangential fibers and those of the external Baillarger that are concerned with the higher psychical functions.

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A STUDY OF CONGENITALLY SYPHILITIC MENTAL DEFECTIVES

By Howard W. Potter, M.D.,
CLINICAL DIRECTOR, LETCHWORTH VILLAGE, THIELLS, N. Y.

The diagnosis of syphilis in the 71 cases in this study was made when definite physical stigmata of congenital syphilis were found regardless of the serological findings or when the blood Wassermann was definitely positive on repeated examination regardless of the physical findings. The differentiation from so-called acquired syphilis was based on the syphilitic nature of the family history, absence of exposure to infection by sex contact and age on admission to the institution. Only five cases were over 14 years of age on admission to the institution. The data is presented on Table 1.

Analysis of Data

Level of intelligence: Of the total number (71) 16 per cent were idiots, 34 per cent imbeciles and 52 per cent morons or borderline types. The lower the mental level the more common were indications found of organic involvement of the central nervous system. Of the idiots, one-half had neurologic signs and one-third positive spinal fluid findings. Of the imbeciles, one-third had neurologic signs and one-fourth positive spinal fluid findings. Of the morons, one-ninth had neurologic signs and one-sixth positive spinal fluid findings. None of the idiots had a bad family history so far as mental defect was concerned as opposed to 50 per cent each of the imbeciles and morons with a family history compromised by mental defect.

TABLE I.

	INTELLIGENCE				STIGMATA			NEUROLOGIC			WASSERMANN				SPINAL FLUID				HEREDITY			
	Idiots	Imbeciles	Morons	Total	Present	Absent	Total	Present	Absent	Total	Positive	Doubtful	Negative	Total	Not examined	Positive	Negative	Total	Unknown	Defective	Non-Defective	Total
Intelligence																						
Idiots	11	0	0	11	4	7	11	5	6	11	7	1	3	11	1	4	6	11	0	0	11	11
Imbeciles	0	24	0	24	15	9	24	7	17	24	13	4	7	24	1	6	17	24	7	5	12	24
Morons	0	0	36	36	17	19	36	4	32	36	26	4	6	36	5	6	25	36	11	8	17	36
Total	11	24	36	71	36	35	71	16	55	71	46	9	16	71	7	16	48	71	18	13	40	71
Stigmata																						
Present	4	15	17	36	36	0	36	11	25	36	18	3	15	36	4	8	24	36	12	5	19	36
Absent	7	9	19	35	0	35	35	5	30	35	28	6	1	35	3	8	24	35	6	8	21	35
Total	11	24	36	71	36	35	71	16	55	71	46	9	16	71	7	16	48	71	18	13	40	71
Neurologic																						
Present	5	7	4	16	11	5	16	16	0	16	13	1	2	16	2	8	6	16	3	2	11	16
Absent	6	17	32	55	25	30	55	0	55	55	33	8	14	55	5	8	42	55	15	11	29	55
Total	11	24	36	71	36	35	71	16	55	71	46	9	16	71	7	16	48	71	18	13	40	71
Wassermann																						
Positive	7	13	26	46	18	28	46	13	33	46	46	0	0	46	6	11	29	46	9	11	26	46
Doubtful	1	4	4	9	3	6	9	1	8	9	0	9	0	9	0	1	8	9	2	2	5	9
Negative	3	7	6	16	15	1	16	2	14	16	0	0	16	16	1	4	11	16	7	0	9	16
Total	11	24	36	71	36	35	71	16	55	71	46	9	16	71	7	16	48	71	18	13	40	71
Spinal Fluid																						
Not examined	1	1	5	7	4	3	7	2	5	7	6	0	1	7	7	0	0	7	2	1	4	7
Positive	4	6	6	16	8	8	16	8	8	16	11	1	4	16	0	16	0	16	4	2	10	16
Negative	6	17	25	48	24	24	48	6	42	48	29	8	11	48	0	0	48	48	12	10	26	48
Total	11	24	36	71	36	35	71	16	55	71	46	9	16	71	7	16	48	71	18	13	40	71
Heredity																						
Unknown	0	7	11	18	12	6	18	3	15	18	9	2	7	18	2	4	12	18	18	0	0	18
Defective	0	5	8	13	5	8	13	2	11	13	11	2	0	13	1	2	10	13	0	13	0	13
Non-defective	11	12	17	40	19	21	40	11	29	40	26	5	9	40	4	10	26	40	0	0	40	40
Total	11	24	36	71	36	35	71	16	55	71	46	9	16	71	7	16	48	71	18	13	40	71

Stigmata of congenital syphilis: (Hutchinson's teeth, interstitial keratitis, characteristic scars, deafness and bone lesions). These were present in 51 per cent of the cases. They occurred more frequently in cases with neurological involvement. They were frequently present when the blood Wassermann was entirely negative. They were found more often in cases from stock of good mentality than in cases from mentally defective stock.

Neurologic signs and positive spinal fluid findings: Each were found in 22.5 per cent of the cases. They occurred more frequently among the idiot and imbecile groups and in those cases with family histories free from mental defect. Spinal fluid findings were positive in instances where there were no other evidences of syphilis, serologically or physically.

Blood Wassermann: Positive in 65 per cent, doubtful in 13 per cent and negative in 22 per cent. In those cases with negative blood Wassermanns there were stigmata of congenital syphilis or positive spinal fluid findings.

Heredity: All except the unknowns were known to have a history of parental syphilis. In 25 per cent of the cases there was not sufficient information to determine the status of their ancestry either as regards syphilis or mental defect. Eighteen per cent were known to have an ancestry compromised by mental defect in addition to syphilis. Fifty-six per cent were known to have a good heredity as far as mental defect was concerned but had a history of parental syphilis. The difference in the findings between the cases free from an ancestral mental defect and compromised by a mentally defective heredity is instructive. *Vide infra,* Table II.

TABLE II

	Cases with non-defective stock (Total No. 40)	Cases with defective stock (Total No. 13)
	Per cent	Per cent
Idiots	27.5	0.0
Imbeciles	30.0	38.0
Morons	42.5	62.0
TOTAL	100.0	100.0
Stigmata present	47.5	38.5
Stigmata absent	52.5	61.5
TOTAL	100.0	100.0
Neurologic signs present	27.5	15.0
Neurologic signs absent	72.5	85.0
TOTAL	100.0	100.0
Blood Wassermann positive	65.0	85.0
Blood Wassermann doubtful	12.5	15.0
Blood Wassermann negative	22.5	0.0
TOTAL	100.0	100.0
Spinal fluid not examined	10.0	8.0
Spinal fluid positive	25.0	15.0
Spinal fluid negative	65.0	77.0
TOTAL	100.0	100.0

A check-up of the fraternities of both the cases with defective stock and those with non-defective stock gives the results tabulated below:

TABLE III

	Cases with non-defective stock (Total number of families — 40)	Cases with defective stock (Total number of families — 13)
	Per cent	Per cent
Miscarriages	20 or 10.0	0 or 0.0
Still-births	10 or 5.0	1 or 2.0
Dead children	32 or 16.0	4 or 8.0
Living defectives or delinquents	69 or 34.0	37 or 74.0
Living—mentally normal	70 or 35.0	8 or 16.0
Total number of pregnancies	201 or 5 to a family	49 or 4 to a family

INTERPRETATION

1. A germ plasm defect (mentally defective heredity) had no part as an etiological moment in the production of the crippled mentality of any idiot in this study. Furthermore, it was apparently excluded in at least 56 per cent of the total number of cases studied. This does not mean that it was present in the other 44 per cent as in 25 per cent of the cases no information on this matter was available.

2. The level of intelligence in congenitally syphilitic defectives bears a direct relation to the severity of involvement of the central nervous system by the infection.

3. As stigmata of congenital syphilis are simply evidences of past spirochaetal activity it is not surprising to find them present when the blood Wassermann is negative and it is also consistent to see them more commonly in cases with neurological involvement.

4. Tables II and III present indisputable evidence to the effect that congenitally syphilitic defectives and their families with a defective ancestry are far more resistant to a syphilitic infection than those with a non-defective ancestry.

CONCLUSIONS

1. All defectives with positive blood Wassermanns or signs of a central nervous system lesion should have as a routine a spinal fluid examination-cell count, globulin, Wassermann and colloidal gold curve.

2. Statistics show that syphilis is not any more common among mental defectives than among the population as a whole. This does not mean, however, that syphilis is to be disregarded and passed over simply as co-incidental when it is found. Every case must be studied individually and if diagnosed early enough, vigorous anti-syphilitic treatment may justify itself by its results. With only rare exceptions were any of the cases in this study diagnosed prior to admission and at such a late age (even early childhood) the damage had already been done and not much could be expected of treatment. This study barely suggests, from the obvious better resistance to a syphilitic infection in the cases and families with a feeble-minded taint in their heredity, the possibility that the resistance and feeble-minded heredity are both present for the same reason.

BIBLIOGRAPHY OF WALTER E. FERNALD, A.M., M.D.

By E. E. Woodill, M.D., and A. M. Wallace, M.D.,
WALTER E. FERNALD STATE SCHOOL

Dr. Walter E. Fernald always considered the education of the public to be one of his first duties. At the beginning of his career, there was little sympathy with the feeble-minded. They were considered as a problem to be pushed aside and ignored as far as possible, or they were to be placed in custodial institutions and receive kindly care but nothing more. In spite of the efforts of such educators as Dr. Howe and Dr. Seguin, education and educational methods had made little progress. Little was known of the moron. Mental defect above the grade of imbecile or idiot was seldom recognized.

Dr. Fernald realized early that no progress could be made without the backing of public opinion. His great love of humanity gave him a keen understanding of the problem of the care and training of the feeble-minded, and his marvelous vision enabled him to think far ahead of his time. He endeavored in every way to give others the benefit of his knowledge and experience. Not only in Massachusetts but in many other states, he was instrumental in bringing about the understanding that feeble-mindedness entered the fields of medicine, sociology, psychology, criminology, mental hygiene, endocrinology, education and economics. His writing was constructive in character and always presented some practical working plan or program.

In addition to his published works, he wrote many valuable things that are unpublished. Some of these are contained in letters of advice to the National Society for Mental Hygiene, letters to the School of Occupational Therapy, letters of advice on the organization of new institutions outside of Massachusetts. Other unpublished works are "Practical Exercises for the Training of Low Grade Children," and "Lectures on Spastic Paralysis."

The following is a bibliography of his publications arranged chronologically.

BIBLIOGRAPHY ARRANGED BY YEARS

1893

Fernald, Walter E. "The History of the Treatment of the Feeble-minded." In Report of the Proceedings of the Twentieth National Conference of Charities and Correction, 1893, pages 203–221. Reprint, Boston, G. H. Ellis, 1893. Fourth edition, Boston, press of G. H. Ellis Co., 1912. In Massachusetts Public Documents, 1901, Vol. II.

This paper was read at a combined meeting of The Association of Medical Officers of American Institutions for Idiocy and Feeble-minded Persons and the International Conference of Charities and Corrections held at the World's Fair at Chicago in 1893. Dr. Fernald was president of the Association of Medical Officers of American Institutions for Idiotic and Feeble-minded Persons at that time. The paper summarizes and interprets the progress of the care and training of the feeble-minded from the time of Seguin to the end of 1892.

1894

FERNALD, WALTER E. "Some of the Methods Employed in the Care and Training of Feeble-minded Children of the Lower Grades." Reprinted from the Proceedings of Medical Officers of American Institutions for Idiotic and Feeble-minded Persons — Session, 1894. In Association Proceedings, 1894, pages 450–457. Fourth edition, Boston, press of G. H. Ellis Co., 1912. In Rev. Int. de ped comp., May, 1899, Vol. 1, pages 148–154.

This paper has for many years served as a text book on the subject and has had a very wide distribution. It was translated into French and published under the title of "Quelques unes des methodes employées pour les soins et l'education des enfants les plus idiots." It was first read at the Eighteenth Session of the Association of Medical Officers of American Institutions for Idiotic and Feeble-minded Persons, held at Fort Wayne, Indiana, in 1894.

1897

FERNALD, WALTER E. "Feeble-minded Children." Third edition, Boston, press of G. H. Ellis Co., 1912.

This paper, read before the New England Association of School Superintendents in Boston, in 1897, treated the subject from an educational standpoint, and brought the importance of establishment of special classes for mentally dull and retarded children in the public schools to the attention of educators. Up to this time the only special class of this kind was one at Providence, Rhode Island.

1902

FERNALD, WALTER E. "The Templeton Farm Colony for the Feeble-minded." In National Conference of Charities and Correction Proceedings, 1902, pages 487–490.

In Survey, March 2, 1912, Vol. XXVII, No. 22, pages 1873–1877, illus. Reprinted from Survey, 1912.
An outline of the first five years of the Templeton Colony. Gives the reasons for starting the Colony, the plan of construction, the early organization, and a report of the work done from the time of the transfer of the first fifty boys from Waverley.

1902

FERNALD, WALTER E. "Educational Treatment of the Feebleminded." Reprinted from New England Medical Gazette. Read before the Boston Homeopathic Medical Society, February 6, 1902. Treats the subject from the standpoint of the medical profession and explains in great detail the physiological training as outlined by Seguin and carried out at Waverley.

1903

FERNALD, WALTER E. "Farm Colony in Massachusetts." In Journal of Psycho-Asthenics, June, 1903, Vol. VII, No. 4, pages 74–80.

1903

FERNALD, WALTER E. "Discussion on 'Should the Scope of the Public School be Broadened?'" In National Educational Association Proceedings, 1903, pages 1005–7.
This article was a rather lengthy discussion of a paper read by Mary C. Greene, ex-superintendent of Special Classes for the Blind in the Board Schools, London, England, on "Should the Scope of the Public School System be Broadened so as to Take in All Children Capable of Education?" If so, how should this be done? This paper was read at the Annual Convention of the Department of Special Education at Boston, Mass., July, 1903. The following quotation indicates the stand taken by Dr. Fernald at this time: "Every American child has the right to be educated according to his need and capacity."

1903

FERNALD, WALTER E. "Mentally Defective Children in the Public Schools." In Journal of Psycho-Asthenics, December, 1903, March, 1904, Vol. VIII, pages 25–35.
This paper was written after a trip abroad in 1903. It is devoted to a description of special classes for the feebleminded in many cities in Prussia, Norway, Sweden, Denmark, Switzerland and England. It did much to stimulate

interest in the establishment of special classes in the public schools of this country.

1904

Fernald, Walter E. "Care of the Feeble-minded." In National Conference of Charities and Correction, Proceedings, 31st Annual Session, 1904, page 380. Reprint.

1904

Fernald, Walter E. "Maine, New Hampshire, Rhode Island." Report. In Journal of Psycho-Asthenics, September, 1904, Vol. IX, No. 1, page 261.

1906

Fernald, Walter E. "The Importance of the Early Discovery and Treatment of Defectives in Special Public School Classes." An address before the Public Education Association of Philadelphia, November 9, 1906.
This was one of the earliest papers written from an educational standpoint and did much to interest educators in the problem of feeble-minded children in public schools and public school special classes.

1907

Fernald, Walter E. "Possibilities of the Colony." In National Conference of Charities and Correction, Proceedings, 1907, pages 411–418. Discussion, pages 419–422, by Dr. Fernald and others.

1908

Fernald, Walter E. "Massachusetts School for the Feeble-minded at Waltham." Reprinted from the Sixtieth Annual Report of the Trustees.

1908

Fernald, Walter E. "The Imbecile with Criminal Instincts." Published in American Journal of Insanity, Vol. LXX, No. 4, April, 1909. In Journal of Psycho-Asthenics, September, 1909–June, 1910, Vol. XIV, pages 16–36. Reprint. Fourth edition, Boston, press of G. H. Ellis Co., 1912.
This paper was read at the Sixty-Fourth Annual Meeting of the American Medico-Psychological Association, Cincinnati, Ohio, May 12–15, 1908. It presents the subject from the standpoint of delinquency and criminology. (The term "Moron" was not used at this time and "Imbecile" includes this group.)

1910

FERNALD, WALTER E. "Circular Letter Sent Out by the Chairman of Committee on Classification of Feeble-minded." April 23, 1910. In Journal of Psycho-Asthenics, Sept., Dec., 1910, Vol. XV, No. 1, 2; pages 62–63.

1911

FERNALD, WALTER E. "Report of the Commission to Investigate the Question of the Increase of Criminals, Mental Defectives, Epileptics and Degenerates." Boston, Wright & Potter Printing Co., 1911.

Commission appointed by the Governor in 1910, Dr. Fernald as Chairman of the Commission of five men, makes the report and covers twenty years, from 1890 to 1909, inclusive. As a result of the twenty recommendations made in this report many beneficial laws have been passed. Associated with Dr. Fernald were Hollis M. Blackstone, Everett Flood, Benjamin F. Bridges, Ernest V. Scribner.

1912

FERNALD, WALTER E. "The Burden of Feeble-mindedness." The annual discourse delivered before the Massachusetts Medical Society at Boston, June 12, 1912. Published in the Medical Communications of The Massachusetts Medical Society, Vol. XXIII, 1912. In Boston Medical and Surgical Journal, June 27, 1912, Vol. CLXVI, No. 26, pages 911–915. In Journal of Psycho-Asthenics, March, 1912, Vol. XVII, No. 3, pages 87–99. Reprinted from the Medical Communications of the Massachusetts Medical Society, Vol. XXIII, 1912.

This paper was the annual discourse read at the annual dinner of the Massachusetts Medical Society and presents to the medical profession the subjects of the known pathology, causes, types and influence of heredity, also the social, economic aspects and a discussion of sterilization. The need of greater understanding of the problem among the medical profession is emphasized and their aid in helping in the elimination of the feeble-minded is urged.

1912

FERNALD, WALTER E. "Some Phases of Feeble-mindedness." Published by J. B. Lyon Company, Printers, Albany, 1912. In New York City Conference of Charities and Correction, third Proceedings, 1912, pages 148–159.

This paper was read at the National Conference of Charities and Correction at Portland, Maine, in 1904. It presented the subject of mental defect from a sociological and economic standpoint and emphasized that juvenile delinquents and adult criminals should be studied from this angle. This paper was of great assistance in interesting the people of Maine in establishing an institution for the feeble-minded.

1914

FERNALD, WALTER E. "Report of the Commission for the Investigation of the White Slave Traffic, So-called." February, 1914. Published by Wright & Potter Printing Co., Boston, 1914.

This Commission was appointed by Governor Foss in accordance with the law, Chapter 64, Resolves, 1916, to investigate vice of a sex nature in Massachusetts. The other members of the Commission were Charles W. Birtwell, Laura Jaquith, Edwin Mulready. Dr. Fernald was the Chairman. Most of the laws recommended by the Commission were later passed.

1914

FERNALD, WALTER E. "Municipal Duty to the Feeble-minded." In Proceedings of the Union of Nova Scotia Municipalities, 1914.

On the invitation of the Committee on the Feeble-minded in Nova Scotia, Dr. Fernald read this paper at Amherst, Nova Scotia, in 1914, to stimulate public interest and to assist in the movement to start an institution for the care of the feeble-minded of the Maritime Provinces.

1914

FERNALD, WALTER E. "The Diagnosis of the Higher Grades of Mental Defect." Published in American Journal of Insanity, Vol. LXXX, No. 3, January, 1914. Reprinted from Journal of Insanity, Vol. LXXX, No. 3, January, 1914. In Journal of Psycho-Asthenics, December, 1913, pages 73–84. In Transactions of the Fourth International Congress on School Hygiene, Vol. III, pages, 543–552. In Ungraded, February, 1922.

This paper was written when the formal mental tests were just coming into general use. It indicates in a general way the fields of investigation necessary to make a diagnosis and give advice.

1915

FERNALD, WALTER E. "The Feeble-minded in the Community." In Femina, February, 1915, pages 47–50

1915

FERNALD, WALTER E. "What is Practicable in the Way of Prevention of Mental Defect." Reprinted from the Proceedings of the National Conference of Charities and Correction, 1915. Also in Report on Care and Control of Mental Defectives and Feeble-minded in Ontario, 1919. Massachusetts Society for Mental Hygiene, Publication No. 6.

This paper was read before the National Conference of Charities and Correction, Baltimore, 1915. It is a definite program for the prevention of mental defect. He advised segregation, supervision and continuing census and registration of the feeble-minded. Education in its broadest sense. "The public generally should be persistently informed as to the extent, causes and results of feeble-mindedness by means of suitable literature, popular lectures, and other means."

1915

FERNALD, WALTER E. "The Duty of the State toward the Feeble-minded." In New York State Conference Charities and Correction Proceedings, 1915, pages 178–192.

1917

FERNALD, WALTER E. "The Development of The Children's Hospital and School, Randall's Island, New York City." Published in Recommendations of The Advisory Board, February, 1917.

The Advisory Board for Randall's Island consisted of Dr. Charles L. Dana, Chairman; Miss Eleanor H. Johnson, Secretary; Mrs. Edward C. Bodman, Prof. Stephen P. Duggan, Dr. Walter E. Fernald, Mrs. Charles Dana Gibson, Hon. Franklin C. Hoyt, Dr. William L. Russell, Dr. Thomas W. Salmon, Mrs. William K. Vanderbilt, Mr. Felix M. Warburg, Prof. Robert S. Woodworth. Dr. Fernald was very active on this board and did much to formulate the plans for the reorganization of the Children's Hospital and School, Randall's Island.

1917

Fernald, Walter E. "The Growth of Provision for the Feeble-minded in the United States." Published in Mental Hygiene, Vol. 1, No. 1, January, 1917, pages 34–57. Reprinted from Mental Hygiene, Vol. 1, No. 1, pages 34–57, January, 1917. Reprint in "The Care and Control of the Mentally Defective in Ontario," 1919.

1917

Fernald, Walter E. "Standardized Fields of Inquiry for Clinical Studies of Borderline Defectives." Published in Mental Hygiene, Vol. I, No. 2, pages 211–234, April, 1917. Reprinted from Mental Hygiene, Vol. I, No. 2, pages 211–234, April, 1917.

This paper was read before the Boston Society of Psychiatry and Neurology in January, 1917. It was written to establish a standard method of examining patients for mental defect. It outlines the Ten Fields of Inquiry which have been used in many clinics in this and other states, and was adopted by the Commission on Mental Diseases for use in the school clinics throughout this state. At this time many psychologists contended that mental tests alone were all that were needed to make a diagnosis of mental defect. Dr. Fernald knew that this could not be done. This paper was a protest against this method.

1917

Fernald, Walter E. "The Feeble-minded." Published in the Educational Review, New York, September, 1917.

Read at the Conference of Feeble-mindedness of the Massachusetts Society for Mental Hygiene, 1916. Dr. Fernald summed it up as follows: "This Conference is really a checking up of our knowledge and a mobilization of our resources preliminary to a concerted and correlated drive upon the feeble-mindedness all along the line."

1918

Fernald, Walter E. "Waverley Researches in the Pathology of the Feeble-minded." Memoirs of American Academy of Arts and Sciences, May, 1918. Vol. XIV, No. 11. Research Series, Cases I–X.

Edited by Walter E. Fernald, M.D., A.M., Superintendent of the Massachusetts School for the Feeble-minded; E. E. Southard, M.D., Sc.D., Pathologist, Massachusetts Commission on Mental Diseases and Bullard Professor of Neurology, Harvard Medical School, with the collaboration of Annie E. Taft, M.D., Special Investigator, Massachusetts Commission on Mental Diseases and Custodian of the Neuropathological Collection, Department of Neuropathology, Harvard Medical School.

Dr. Fernald, realizing that little was known of the pathology of mental defect, formulated the scheme of having a study made of fifty post-mortem brains and furnished the inspiration for this work. He interested Dr. E. E. Southard in the scientific part of the work and in May, 1918, the first volume was published. Most of the brains for this study were furnished from the Waverley School. A large number of the autopsies were done by Dr. Myrtelle Canavan. Dr. Annie E. Taft did most of the brain observations.

1918

FERNALD, WALTER E. "Some of the Limitations of the Plan for Segregation of the Feeble-minded." In Ungraded, May, 1918, pages 171–176.

1919

FERNALD, WALTER E. "A State Program for the Care of the Mentally Defective." In Canadian Journal of Mental Hygiene, July, 1919, Vol. I, No. 2, pages 103–110.

This paper was read several times and was presented in three different states; first at the Child Welfare Conference of the Children's Bureau at Washington, D. C., in June, 1919; second, at the State Conference of Social Work at Madison, Wisconsin, in 1919, and again at the meeting of the Iowa State Board of Control and the Des Moines Health Center in 1920. It presents the most comprehensive program for the care of the mentally defective that has ever been formulated.

1919

FERNALD, WALTER E. "An Outline of a State Program for the Care of the Feeble-minded." In Proceedings of the Wisconsin State Conference of Social Work, Madison, Wisconsin, October 14, 1919, page 56. Reprinted in Iowa Board of Control Bulletin, 1920.

1919

FERNALD, WALTER E. "Report of the Special Commission Relative to the Control, Custody and Treatment of Defec-

tives, Criminals and Misdemeanants." February, 1919. Published by Wright & Potter Printing Co., Boston, 1919. Abstract in Journal of Delinquency, July, 1923.
Dr. Fernald was chairman of this Commission. The other members were Ellen Gray, Thomas W. White, Edward Bagley, George M. Kline, M.D., and Robert Kelso. Six constructive recommendations for legislation resulted from this investigation. Some of the most important laws passed later were The Custodial Care of the Defective Delinquent, The Compulsory Examination of Children in the Public Schools Three Years Retarded Mentally, and A Central System of Registration of the Feeble-minded under the Direction of the Commission on Mental Diseases.

1919

Fernald, Walter E. "After-care of the Patients Discharged from Waverley for a Period of Twenty-five Years." Reprint in Ungraded, Vol. V, No. 2, November, 1919. In publication of The Canadian National Committee for Mental Hygiene, Canada, 1920.
Dr. Fernald felt that the time was ripe for placing more patients in the community and for establishing a social service department to carry on their supervision. Before he felt justified in doing this he wished to have some knowledge of what had happened to the patients who had been discharged from the School. This survey proved that many of the things that were supposed to have happened to these patients had not happened and it gave him courage to place more trained patients at work for wages.

1920

Fernald, Walter E. "An Out-Patient Clinic in Connection with a State Institution for the Feeble-minded." Published in American Journal of Insanity, Vol. LXXVII, No. 2, October, 1920. Reprinted from American Journal of Insanity, Vol. LXXVII, No. 2, October, 1920.
This paper was read at the Seventy-Sixth Annual Meeting of the American Medico-Psychological Association, Cleveland, Ohio, June 1–4, 1920. It was a report of the work done by the out-patient clinic held at the Massachusetts School for the Feeble-minded from 1891 to 1920. Six thousand patients had been examined and advised during that period.

1920

FERNALD, WALTER E. "Mental Hygiene." In Boston Medical and Surgical Journal, Vol. CLXXXIII, No. 27, December 30, 1920.

This paper was read before the Massachusetts Medical Society, June 9, 1920. Dr. Fernald approached the subject from a mental hygiene standpoint. The purport of the paper was to give physicians some idea of community care of the feeble-minded and it stresses early diagnosis, and understanding of the great number of mentally defective who must be cared for extra-institutionally.

1921

FERNALD, WALTER E. "Waverley Researches in the Pathology of the Feeble-minded." Memoirs of American Academy of Arts and Sciences, December, 1921. Vol. XIV, No. III. Research Series, Cases XI to XX.

Edited by Walter E. Fernald, M.D., A.M., Superintendent Massachusetts School for the Feeble-minded, Waverley, and E. E. Southard, M.D., Sc.D., Pathologist, Massachusetts Commission on Mental Diseases, and Bullard Professor of Neuropathology, Harvard Medical School, with the collaboration of Myrtelle Canavan, M.D., in charge of the Pathological Division, Massachusetts State Psychiatric Institute and Pathologist, Boston State Hospital, and Oscar J. Raeder, M.D., Assistant Pathologist, Massachusetts State Psychiatric Institute, and Pathologist, Boston State Hospital.

1922

FERNALD, WALTER E. "The Inauguration of a State-Wide Public School Mental Clinic in Massachusetts." Published in Mental Hygiene, Vol. VI, No. 3, July, 1922. Reprinted from Mental Hygiene, Vol. VI, No. 3, July, 1922.

This paper was read at the Forty-Sixth Annual Meeting of the American Association for the Study of the Feeble-minded, St. Louis, May 20, 1922. Dr. Fernald had always felt that the diagnosis of mental defect should be made as early as possible. He reasoned that all children pass through the public school system at some time. Acting largely on his advice in 1919 the Legislature passed a law requiring the mental examination of children three years or more retarded in mental development and the establishment of special classes in cities or towns where ten or more mentally defective children were found. This paper describes the establishment and organization of a net work of clinics covering the entire state.

1923

Fernald, Walter E. "The Subnormal Child." Published by School and Society, Vol. XVIII, No. 458, October 6, 1923. Reprinted from School and Society, Vol. XVIII, No. 458, October 6, 1923.
This paper was read at a meeting of the Harvard Teachers' Association at Sanders Theatre, Harvard College, April 28, 1923. The writer calls attention to the greatly increased interest of the educator in the subnormal child. The program for the salvage of the subnormal child may be summed up as follows: 1. Early recognition of every defective in the public schools. 2. Education suited to each child's needs and capacity. 3. Long-continued industrial and vocational training. 4. Social service during the lifetime of the child.

1923

Fernald, Walter E. "The Salvage of the Backward Child." Published in The Boston Medical and Surgical Journal, Vol. 189, No. V, pages 161–165, August 2, 1923. Reprinted from The Boston Medical and Surgical Journal, Vol. 189, No. V, August 2, 1923.
This paper was read at the Conference on Mental Hygiene at Boston, April 12, 1923. It emphasizes the impossibility of institutional care for all the feeble-minded on account of the magnitude of the problem and presents the following program. 1. Identification. 2. Registration. 3. Supervision. 4. Instruction. 5. Segregation.

1923

Fernald, Walter E. "What Shall We Do with the Feeble-minded?" Published in Hospital Social Service, Vol. VIII, No. 2, August, 1923. Reprinted from Hospital Social Service, Vol. VIII, No. 2, August, 1923.
This paper was read before the Philadelphia Conference on Social Work, April 19, 1923, and stresses community care, and in conclusion says, "The real purpose of this program is to make education and social service in the broadest sense the keynotes of the management of feeble-mindedness.

1924

Fernald, Walter E. "Thirty Years' Progress in the Care of the Feeble-minded." Published in Proceedings of the Forty-Eighth Annual Session of the American Association for the Study of the Feeble-minded, 1924. Reprinted from the Proceedings of the Forty-Eighth Annual Session of the American Association for the Study of the Feeble-minded, 1924.

Address of Dr. Fernald at the annual meeting of the American Association for the Study of the Feeble-minded in May, 1924, of which Dr. Fernald was president for the second time in the history of that organization. In 1893, at the International Conference of Charities in Chicago, "The History of the Feeble-minded" was assigned as the subject of the president's annual address and was a brief summary of the progress of this movement from the time of Seguin until the end of 1892. This address reviews "the progress made in the science and art of caring for the feeble-minded" from 1893 to 1923.

1924

Fernald, Walter E. "Feeble-mindedness." Published by Mental Hygiene, Vol. VIII, No. 4, October, 1924, pages 964–971. Reprinted from Mental Hygiene, Vol. VIII, No. 4, October, 1924.

This paper was written for inclusion in the third edition of "A Mental Health Primer. It presents the subject of feeble-mindedness in very simple language for popular distribution of the National Society for Mental Hygiene.

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DOUGLAS A. THOM, M. D.
GEORGE L. WALLACE, M. D.

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"RESEARCH IN STATE HOSPITALS"

BY F. H. SLEEPER, M. D.

Assistant Superintendent, Worcester State Hospital

At the present time the State of Massachusetts is expending more than $10,000,000 annually for the care of victims of mental disorder. Upwards of 20,000 patients are being cared for in the institutions coming under the direction of the department of mental diseases. These 20,000 individuals must be regarded as essentially non-productive members of society. A rather conservative estimate would place the aggregate annual earning capacity of these patients, if normal mentally, at approximately $12,000,000. The problem of mental disease is not limited to the State of Massachusetts however. According to the compilation of Frederick W. Brown, Director, Department of Information and Statistics, the National Committee for Mental Hygiene, 553 institutions or 8% of the total in this country, were devoted to the care of nervous and mental patients. In these 553 institutions there were, however, 394,268 beds, or 44% of all institution beds. The average number of patients in mental hospitals in 1928 was 369,035, an increase of 19,368 patients over 1927. More than 52% of the patients in all institutions are in hospitals for nervous and mental diseases. One out of every 325 people was a patient in an institution for nervous and mental disorders. Brown's figures were based on the annual hospital census of the American Medical Association as reported in the J.A.M.A. issues of March 30, 1929 and March 24, 1928.

Horatio M. Pollock, Director, Statistical Bureau, New York State Department of Mental Hygiene, in an article in the January 1928 number of Mental Hygiene, entitled, "State Institution Population Still Increasing", comments on the marked increase in the population in mental institutions, the rate of increase far exceeding that of the general population. He states that either the number of social deviates is increasing or the people to a greater extent are turning to state institutions for relief. * * * It is clear that the burden of mental disease * * * borne by the state is continually becoming heavier.

From a careful consideration of the above facts; if only from a financial standpoint, disregarding entirely the factor of human suffering, it seems rather obvious that the mental disease problem deserves a tremendous amount of research from every approach that offers hope for a solution to any of the questions which combined go to make up the entire problem.

The establishment of institutions similar to the Psychiatric Institute in New York, the Institute for the study of Human Relations at Yale; the organization of special associations with definite research programs similar to the Association for Research in Nervous and Mental Disease; the Mental Hygiene movement emphasizing prevention of mental disorder, the establishment of Child Guidance Clinics in various communities, clearly show the trend of the times, pointing to the fact that psychiatrists are interested in their problems as never before.

Are the state hospitals as a group assuming the place they should in the attempt to answer the many baffling problems encountered in their daily contacts with mental disorder? The question can hardly be answered in the affirmative. It is true that there are some state institutions in the United States doing excellent research work but they are comparatively few in number. This statement is based on a moderate familiarity with psychiatric literature. In reading psychiatric journals we notice that considerable work emanates from certain institutions but publications are rare from others. In using the Quarterly Cumulative Index Medicus one is also struck with the large amount of psychiatric literature appearing in German. There appears to be a great deal more research work being done in Germany than in this country.

Each state hospital is a potential research institution. Most mental patients in the United States are in state institutions. The state hospital population offers an excellent cross section of mental phases of the disorder, in the acute stages following admission and in those conditions becoming chronic. These may be studied over a period of years and all this in circumstances offering the best opportunities for controlled work that could be hoped for. Why then, isn't more work being done along these lines in the State Hospitals in the United States? Various answers are given to this question but they may be summed up under the following headings:

1. *Lack of time.* In most state institutions the number of patients allocated to each physician is too large. Certain hospitals frequently do not have a full staff and this tends to increase the total number of patients the individual physician is called upon to care for. The time required to properly care for his patients prevents the physician from assuming other work. In certain institutions this difficulty is partially overcome by allocating several hundred patients to one physician and giving only custodial care to the group. In the light of our present knowledge it would seem that this procedure is justified, as there are large numbers of patients seniles and arteriosclerotics where custodial care only in the main is indicated.

2. *Lack of proper direction.* Many physicians have the inclination to do research work but lack proper guidance, are untrained in research technique, make many mistakes obvious to the trained worker, waste time and material and give up projects started through discouragement. Frequently a little guidance might lead in such circumstances to the successful completion of a valuable piece of work.

3. *Lack of funds.* In certain states the appropriations are only sufficient to care for routine standard needs of patients and money for personnel and equipment for research purposes is not available. It is interesting to note that in Massachusetts for the ensuing year the Governor has asked the legislature for $100,000 for research purposes in the field of mental disease. This fact in itself will doubtless have a tremendous stimulating effect upon the research output in Massachusetts state hospitals. It would appear to be a justification for the thought that money should at the present time be expended for research in existent state hospitals rather than in establishing special research institutions at a very great initial cost.

4. *Lack of interest.* It is true that there still are some institutions that see the problems but are quite content to let other hospitals solve them. When new proven advances appear these hospitals use them but hardly deem it their province to do pioneer work. If the personnel of the hospital is not qualified to do good research it is perhaps better to take this attitude.

For the past three years a definite research program has been carried out at the Worcester State Hospital. At the start three of the reasons given above for the small amount of work being carried out in state hospitals were operative in this hospital. Interest in the problems occuring in this field was present. By elimination of certain staff meetings and closer cooperation between the different services, better utilization of time by individual staff members; efficiency of the Staff as whole improved and more time could be given to research without in any wa hurting the ward service. As a matter of fact the ward service was improved a the interest in research increased.

In the mattter of direction a consultant in therapeutic research with many year experience in physiological research methods was appointed, serving withou salary from the state. The consultant gives half his time to the hospital. Unde his stimulating guidance a fairly well defined research service has evolved.

Funds for carrying out projects have been available to a certain extent fror state funds, from the Memorial Foundation for Neuro-Endocrine Research an from private sources.

Of paramount importance in the planning of any research program is the attitude of the Superintendent of the Institution toward such work. For the successfu carrying out of such a program the Superintendent must have a sympathetic understanding of the problems, and must be the final driving force, as he, in the last analysis, must furnish the "sinews of war".

During the past three years publications from this hospital have increased. A few of the titles will give an idea of the diversity of projects carried out.

1. Tryptophane Reactions in the Spinal Fluid.
2. Basal Metabolism in Schizophrenia.
3. "Hypnoidalization" Its Psychotherapeutic Value.
4. A case of Hebephrenic Dementia Praecox with Marked Improvement under Thyroid Treatment.
5. Endocrine Studies in Dementia Praecox.
6. The Effects of Ingested Thyroid Substance on the Blood Morphology of Man.
7. Malaria as a Therapeutic Agent for Paresis. (An analysis of 101 patients treated at the Worcester State Hospital.)
8. The Erythrocyte Sedimentation Reaction.
9. The Effects of Hypnotism on the Basal Metabolism.
10. The Inter-relation Between Family and State Hospital Social work.
11. Psychiatry in the Massachusetts Courts.
12. Psychological Group Tests for Clinical Studies.
13. A Psychiatrist's Notes on Family Case Work Problems.
14. Teaching as a Function of the State Hospital.

Eight members of the staff wrote the above cited fourteen papers showing that nearly the entire staff was interested in one or more original problems.

In conclusion it would appear that state hospitals offer an excellent field for research workers. Research services might profitably be financed by the state in the hope of eventually raising the discharge rate from mental institutions. A definite research program should be part of the service rendered by each state hospital.

A MEDICAL AND SURGICAL SERVICE IN A STATE HOSPITAL

By Clifton T. Perkins, M.D.

Senior Physician, Worcester State Hospital

"Why should there be a medical and surgical department in a State Hospital which has been erected for the primary purpose of treating the mentally ill?" Such a question and many others — relative to the organization, function, and accomplishments of such a department — have often been asked by laymen visitors, and even at times by physicians who are not particularly acquainted with the activities behind the administrative offices of a State Hospital.

It is true that the primary purpose of the State Hospital is the treatment of mental diseases, but innumerable times in the past this treatment has been unnecessarily delayed or failed because of an intercurrent physical disorder in which treatment has been minimized. Psychiatrists for many years have recognized that mental patients are subject to somatic ailments, not only as much as are those not mentally ill, but even more than the latter.

Some of the common types of the above conditions which deserve medical or surgical consideration might be classified in the following manner: —

1. The case in which the mental illness is closely associated with, or directly attributable to an underlying somatic disease, and when the latter is cured or markedly improved the former is gradually restored to normal. This is the case of "Psychosis with Somatic Disease," or the general paretic.
2. The patient who, because of his mental status, subjects his body to unusual strain and general improper living habits which promote a varied group of pathological conditions. This is the case in whom a latent tuberculosis develops into an active one. Or the patient who becomes grossly malnourished; bruised; exhausted; or who has eaten unwisely and develops an acute abdominal condition. Is it any wonder that nearly 40% of our postmortem examinations reveal gastro-intestinal pathology?
3. The patient who, independent of his psychosis, has become an unfortunate victim of common pathological changes which have resulted in his physical incapacitation. Such a patient is he who develops pneumonia; slips and injures or even breaks a bone; has a peptic ulcer, appendicitis, or gallbladder disease. Or the patient who has any of the usual acute illnesses or the chronic illnesses characteristic of advancing years.
4. The patient who does not immediately require medical or surgical services, but to whom such attention may give physical or mental relief and assist in maintaining his general health. Such is the case with large boggy tonsils and adenoids which are continually sapping his vitality and interfering with his sleep; or the man who is continually irritable because of protruding, burning hemorrhoids; the patient who incessantly has to lie prone and replace a herniation.

With such a varied group of somatic illnesses — and nearly all types of the common medical and surgical condition might be included in the above classification — is it not anticipating too much to ask the psychiatrist to take the burden of treating them in addition to the mental illness? Certainly we cannot expect him to be a specialist in both general medicine and surgery as well as psychiatry. At the same time we cannot expect him to do efficient work on sick minds superimposed upon sick bodies.

Realizing this tremendous responsibility placed upon the psychiatrist, and in earnest endeavor to do everything possible for the welfare of the patient, the administration of the Worcester State Hospital a few years ago organized a medical and surgical service for the care of somatic diseases. While this service is far from the height of perfection, nevertheless it is improving from year to year in its effect to fulfill its function in caring for the general medical and surgical needs of the hospital residents.

The organization of this service, briefly, consists of the following:

1. Personnel.
   - A. A staff of consulting physicians and surgeons, each a specialist in his particular field of medicine or surgery.
   - B. Resident physicians, graduates of reputable medical schools, each of whom has his primary interest in somatic disease.
   - C. Internes, recent graduates of reputable medical schools, who recognize the value of the large amount of clinical material available in a large mental hospital. The hospital can expect little from these young physicians, but it has much to offer them.

D. Supervisors and charge nurses, all registered, who have had menta training but have shown ability to properly care for physical disorders.
E. Trained technicians for the accessory diagnostic and treatment departments — surgical suite, x-ray, laboratory, and physical therapy.
F. Nurses, attendants and assistants.

2. Wards.

Ten wards are set aside for the purpose of caring for medical and surgica needs. The patients admitted to these wards for physical ailments come from over the entire hospital. They are segregated according to sex and disease, and pass through the same procedure as in any general hospita in a community. During 1928 over 1,000 such patients were cared for with an average daily census of 320.

Each surgical ward is so situated as to give the usual out-patient care to those not requiring residence on the active medical wards. During 1928, 36,068 such treatments and dressings were administered.

3. Clinics.

Various routine clinics are conducted not only for those having definite somatic complaints, but to include every patient admitted to the hospital. These include eye, ear, nose and throat, gynecological, and luetic clinics. During 1928, 1109 patients were examined in these clinics, and 3047 treatments administered.

4. Special Divisions.

A. A fully equipped surgical suite is available for any major or minor operation. Approximately 300 such operations are performed yearly.

B. An x-ray and fluoroscopic suite is maintained, where in 1928, 2,232 plates were taken on 980 patients.

C. Laboratory and pathological suites are kept active, and in 1928, 18,895 determinations were made.

D. A physical therapy department is actively maintained as a valuable adjunct to medicine and surgery.

Not only must the patients be considered in dealing with general medical and surgical care in a State Hospital, but also those who care for the patients. When employees become incapacitated the final suffering is felt by the patients through lack of proper care, or even negligence. To minimize this loss provision has been made for the selection and care of employees.

1. All employees are subjected to a routine physical examination when about to become employed. The purpose of this examination is to eliminate those who are not physically able to do the work for which they are about to be employed.

2. Facilities for hospitalization and active medical or surgical care for those who require such attention.

3. Clinics are conducted daily at a specified hour, for those desiring medical or surgical advice or treatment as out-patients.

From the preceding paragraphs it becomes obvious that the function of a medical and surgical service in a State Hospital resolves into two main factors, and a third of less importance: —

1. To alleviate the medical and surgical problems of the patients, enabling the psychiatrist to better perform his duties and help the patients back into industry and to their homes.

2. To keep the employees in good physical health by preventive measures, thus decreasing the number of days lost through sickness. Also to give them proper care in case of injury or sickness.

3. With the wealth of material at hand a medical and surgical service should be well qualified for a certain amount of teaching, and thus attract a larger group of recent graduates to the field of mental diseases.
4. Again, with the material available, and ever mindful of the innumerable problems related to mental and neurological disorders, an active medical service may advantageously indulge in research problems. These may be evolved by this particular service, or in conjunction with other services.

Such a service as outlined briefly has been found to be a distinct asset to State Hospital work. It must not, however, be a distinct or entirely separate unit, but must work in harmony with the entire hospital organization. Unless this can be accomplished, there is a serious danger of the patient being buffeted from one service to another, never receiving adequate study or treatment, resulting in no benefit to either the patient or the hospital.

Success — recognizing the purpose, completing the organization, and fulfilling the functions — of such a service depends to a large degree on this harmony, this cooperation between it and the administration, the psychiatric services, the research service, and the various departmental heads.

THE PSYCHOLOGICAL DEPARTMENT IN A STATE HOSPITAL

By David Shakow

Psychologist, Worcester State Hospital

The ideas which will be presented in this paper are some which have evolved in the practical handling of a State Hospital psychological department which has a thriving Child Guidance Clinic connected with it. In general the problems would be the same in any State Hospital where the executive authorities recognize the contribution of the psychologist to the hospital organization. If the paper becomes somewhat specialized in its emphasis on this particular hospital, it is hoped that it will be excused. If on perusal of the article the reader feels that the title would more accurately have been expressed as "Opportunities for a Psychologist in a State Hospital", then the purpose of the paper has been served.

It is unnecessary to say more than a few words on the subject of personnel and quarters. It is obvious that a psychological department whose equipment consists of a Stanford set and perhaps one performance test, whose office consists of a desk in the social service office, whose examining has to be done on noisy wards, cannot do very satisfactory work. Psychological work — whether of a test or experimental nature — requires a quiet environment and some elbow room besides adequate material. Until hospital officers see the necessity for, and the contribution of, trained psychological help and are ready to give them the necessary cooperation and physical conditions, they will not be able to attract the kind of psychological assistance which will contribute to an understanding of their problems.

The *clientele* of a psychological department such as ours shows a very considerable degree of heterogeneity — probably as diverse a subject population as can be found in any single organization. An idea of this variety can perhaps be given by listing the kinds of individuals examined and used for experimental purpose in the last year:

1. House:
    a. Regular adult patients (all kinds of psychoses).
    b. Infants and children — the former, born in the hospital; the latter regular patients.
    c. Employees — all degrees of education, intelligence, and age.
2. Out-Patient Department:
    a. Children in the school clinics.

b. Children in the Child Guidance Clinic (delinquent, neurotic, problem feeble-minded, etc., etc.
c. Unmarried mothers at the Girls' Welfare Society.
d. Prisoners at the Jail.
e. Groups of children for the schools — to determine qualification for first grade.
f. All kinds of normal subjects used for standardization purposes.

Thus, we have a *clientele* which ranges in age from one month to 70 or even more years, which covers the range of distribution of intelligence and "normality" which shows tremendous variability in the presence and degree of physical defect and which runs the gamut of language difficulty.

The routine work of the department consists largely of the administration of mental tests to the patients and out-patients. For the variety of case material it is obvious that a very diversified testing schedule must be at our command. Our examining equipment includes a large number of tests in each of these groups:

1. Individual language, for general mental ability.
2. Group language, for general mental ability.
3. Group non-language, for general mental ability.
4. Performance (of a multiplicity of kinds.)
5. Special (Memory, Association, Apperception, etc.)
6. Personality and Character.
7. Vocational.
8. Miscellaneous (Achievement, etc.)

Test batteries have been arranged for all kinds of groups. In the Child Guidance Clinic it has been found advisable to make schedules which would take into account not only the age of the subject, but the thoroughness with which it was necessary to work his case up. Our subjects have been divided into four groups: Pre-school, 6–12 years, 12–16 years, and 16–over. For each of these groups we have three schedules: A, B, and C. The A schedule is the minimum schedule and takes approximately an hour and a half to administer. The B schedule is the medium schedule and takes between three and four hours to administer. The C schedule is the maximum schedule and takes six hours or more to administer. (Of course the longer schedules are broken up into a number of examination sessions.) Each of these schedules is eclectic and contains at least a general test and a performance series.

In the house, a similar principle is followed though it has not been worked out so definitely. The schedules are arranged by type of patient and by reason for referral rather than by age. Thus the regular patients in the regular routine have the equivalent of the minimum schedule, whereas the Dementia Praecox patients on research have the equivalent of the B schedule.

One of the essential functions of a Psychological Department is to carry on research work. A department which is organized on a purely routine basis is bound to stagnate and have a hebetating influence upon its members, eventually affecting that routine work unfavorably. The need for research in psychopathology and related fields is great, the opportunities unlimited. The immensity of this field of research for psychologists might perhaps bear more detailed reference to. Almost every specialty in psychology has some field of work in an organization such as ours. The child psychologist, the abnormal psychologist, the animal psychologist, the experimental psychologist, the applied psychologist, have a scope which is only limited by their interests and abilities.

Research activities, in so far as the patient is involved, fall roughly into three groups: therapeutic, diagnostic, theoretical. Of course there is considerable overlapping, but the primary purpose of the research is under discussion.

In the therapeutic field there is considerable scope for work both in the determination of the various factors which may have a place in therapy (e.g. in relation to occupational therapy; various forms of psychotherapy, such as hypnosis) and in working out measures of the degree of effect of administered therapy.

In the diagnostic field lies a tremendous opportunity for the psychologist. The uncertainty of clinical diagnosis could in many instances be decreased if laboratory tests were available which could be used for differential diagnosis in a similar way to which the tests of general intelligence are used in the diagnosis of feeble-mindedness. Tests for retardation, affective rigidity, perseveration (to take a few clinical symptoms), could be developed if sufficient time and effort were given to it. The laboratory would then be of considerable aid in making more exact the definitions of various symptoms and supplying objective measures of them.

In the field of theoretical research, the need is obvious. Psychopathology is in a state where more controlled work of both a qualitative and a quantitative nature is essential. The opportunities lie both in the test and in the experimental field. An attempt to list these at all fully would necessitate an analysis of almost the entire subject of psychopathology. A mention of a few of the major fields of endeavor, however, will suggest the range of possibilities:

1. Study of abnormal states in normals — hypnosis, dreams, sleep, effects of drugs, suggestion, illusions, hallucinations, etc.
2. Study of abnormals — both normal and abnormal states, — objective observation, studies of memory, association, emotions, sensations, etc.
3. Abnormal states in animals. Animals offer an unusual field of experimentation for psychopathology because of the possibility of controlling genetic factors and environmental stresses. This field has scarcely been touched. Although the application to the human field would have to be very cautious, it seems very probable that findings in this field will give us valuable hints.

Besides the various lines of research with patients there is a very wide field for the industrial psychologist in an organization with hundreds of employees of all kinds who turn over at a stupefying rate.

Various researches along these general lines are now in progress at this hospital. This is not the place for listing or discussing them.

Our department takes its part in the teaching program of the hospital. The medical internes, affiliate nurses, and other groups receive lectures on psychology, psychometrics and related subjects. Because of the wide range of material at the command of the department the state hospital is an exceptionally good place for training workers in psychometrics and clinical psychology. This fact recognized, it is desirable that all who come here shall have the opportunity of working with this material. It is, therefore, the policy of the department that the service be a rotating one to cover all the various types of patients at our command.

The State Hospital, with an associate Child Guidance Clinic, in which the attitude of the executive staff is a cooperative one, is an excellent place for psychological training and research. In the latter field there are limitless opportunities for almost any specialty in psychology — be it theoretical, animal, applied, or experimental. In the former field its training for Child Guidance work or any clinical or psychometric work is invaluable. This will in time be appreciated as it is beginning to be in the field of psychiatry.

COMMUNITY WORK IN A STATE HOSPITAL

By Samuel Hartwell, M. D.

Director Worcester Child Guidance Clinic

The extra-mural activities of a State hospital may well be thought of as having two distinct aspects. The first, that of rendering service to patients, ex-patients or potential patients of the institution and the families and others directly interested in them. The second may be spoken of in general as community education. Much has been accomplished in the last century. Mental patients are no longer thought of as being possessed of a devil; they are no longer chained, punished, or made to suffer unnecessarily. But the unthinking and unnecessary stigma formerly associated in the public mind with treatment in the mental institution has not entirely disappeared.

And while the public's idea of the function and influence of the State hospital in a community is rapidly changing, much yet remains to be accomplished in community education along these lines.

In any community in which there is a State hospital, the members of the staff should be the leaders in educational and applied mental hygiene. Any of the activities of the State hospital outside the institution itself that is accepted and appreciated by the community may not only accomplish its program, but may aid in establishing the hospital and its staff in their natural and desirable place as leaders in all things pertaining to mental health and normal behavior.

Participation by the members of the staff in these as leaders or members in all mental hygiene study groups will do much to overcome the unfortunate attitudes sometimes established in a community. Members of the State hospital staff are regarded as being doctors rather apart from the rest of the medical profession. The State hospital is considered as being an institution apart, and not to be thought of with the other hospitals in the community.

Well planned "lawn days" and special public visiting days in which others than those directly connected with the State hospital or its patients take active part are useful and important in an educational way.

The Social Service activities outside of the hospital are, of course, of the greatest importance not only in the fine service they are rendering patients after discharge, but in helping the community and the other agencies serving the public to understand that mentally sick people are, after all, simply sick people who need understanding and sympathy in the same way as do those who are physically sick.

But of all the outside functions of a State hospital, the Out-Patient Department is the most important. Constant endeavor of those in charge should be to establish themselves and the department in the community in such a way that all those who in any way feel in need of the sort of advice or treatment that the psychiatrist might render, will think of the State hospital, its doctors, and social workers as the ones to be consulted and depended upon in the same way and with the same confidence that they are now thinking of the General Hospital.

It is largely through Child Guidance Clinics that the allied professions, the agencies, and the public are becoming informed of the principles of Mental Hygiene and the importance of early treatment in personality and behavior of abnormalities.

There are two obvious reasons for this: *1st.* More may be accomplished with children whose mental habits and personality traits are yet in the plastic stage than with the adults with which these things are more firmly established. *2nd.* Very fortunately there seems to be no noticeable tendency to feel that there is anything to be ashamed of in sending a child to see a psychiatrist. And children themselve have no strong inhibitions against going.

State hospitals located in communities not actively served by a Child Guidance Clinic can have no more constructive outside activity than establishing or supervising such a clinic. Which of these relationships they have to the clinic should be determined by the local conditions.

The Worcester State Hospital early recognized the importance of the early study and treatment of potential mental cases. Through the efforts of the staff of the hospital there was established more than eight years ago under the direction and supervision of the Worcester State Hospital one of the first Child Guidance Clinics to be established in the United States. Incidentally, this was the first in the United

States, as far as we know, to be established under the direction of the State hospital. The clinic has from the beginning been jointly supported by the City of Worcester, through contributions from the Worcester Welfare Federation, and the Department of Mental Diseases. The city has furnished the offices for the clinic, stenographic help, office supplies, and has paid the salary of the chief social worker. The hospital has supplied the psychiatric and psychological staff, and has maintained the student social workers.

From a small beginning the clinic has grown to the place where about four hundred cases per year are thoroughly studied and given social and psychiatric treatment. From the beginning, treatment has been emphasized. At present, the total time spent by the members of the Clinic Staff on the average child is thirty hours. The Staff is composed of one full time and one part time psychiatrist, three full time social workers, one full time and two part time psychologists. The Staff and the plans of the Clinic are constantly growing. The community in and around Worcester has always cooperated in this development, and has learned to value and appreciate the service given by the Clinic to the community. Great credit has always been given to the hospital by the agencies and private individuals served by this branch of the Out-Patient Department. During these years many people have through their association with the Child Guidance Clinic, learned to think of all the services rendered by the State hospital as something very human, necessary and constructive as contrasted with earlier attitudes of dread and avoidance.

All members of the Staff, both of the Hospital and the Child Guidance Clinic have tried to and in a large measure have succeeded in constantly keeping in the mind of the community that the treatment given in the Child Guidance Clinic is in many cases directly undertaken with the idea of preventing mental ailments such as many of our patients in the hospital are suffering.

This idea is not and cannot, of course, be directly emphasized to the parents of a particular child, but the idea as it applies to a considerable part of our cases in the Child Guidance Clinic may be, and should be, emphasized. To do this helps both the Clinic and the Hospital. The Clinic because it lends importance and dignity to our efforts with peculiar and unadjusted children. To the Hospital because it emphasizes the possibility of understanding the mental life of psychotic individuals and the possibility of their cure.

TEACHING IN A STATE HOSPITAL

By Stafford Ackerly, M. D.

Clinical Director, Worcester State Hospital

The modern conception of teaching today is more in keeping with the literal meaning of the word education than ever before. Real development comes from being "drawn out", not from the process of "pourings in". The emphasis is upon active searching not upon passive absorption.

There is no better place to experiment with educational methods in the broad field of psychiatry than in the large State Hospitals of the present day. So far as results are concerned, the future must bear witness. At present we are concerned with the opportunities which the State Hospital has to offer to the medical student, nurse, social worker, occupational worker as well as theological students in understanding the principles of psychotherapeutics and that vague intangible something called mental hygiene.

State Hospitals are in possession of valuable physical equipment which has been accumulating for decades at enormous expense. There are beds, medical supplies, operating rooms, hydrotherapy, physiotherapy, occupational therapy, as well as thousands of patients in all stages of physical and mental health. No other hospital offers the student such a wealth of material and material that stays long enough to be studied completely from the beginning to the end of their maladies, whether that end is a happy adjustment to the community or unhappily the autopsy table. All legitimate forms of therapy should be tried in the treatment of these patients. There should be no room for the therapeutic nihilist in a State Hospital.

Teaching is largely dependent upon two factors: first, a staff that is therapeutically minded and therefore interested in the current literature for fresh ideas; secondly, a psychiatrist, preferably a clinical director whose experience in the diagnosis and treatment of mental and nervous patients can be imparted with clarity and enthusiasm. To my mind the most valuable asset a teacher in this field can have is personal experience in intensive psychotherapy not only with neurotics and psychotics but also with problem children who frequent child guidance clinics. Such experience either dampens the enthusiasm for psychiatry or quickens it according to the amount of insight gained and the results accomplished. Circumstances should shape themselves so as to attract such a man to stay on for several years at least. Freedom from unnecessary routine, opportunity to keep abreast of the literature, comfortable living conditions, are essential if he is to head up the teaching activities successfully and grow with his job.

The staff in a State Hospital needs high grade instruction. The rapid turnover alone demands this. The higher the grade of staff psychiatrist, the more difficult is it to compete with the many extra-mural positions bidding for him. The staff physician in turn is needed to teach the nurses, occupational workers, and assist in the instruction of social workers and medical students.

The last named group, that is the medical students, so far as the future of psychiatry is concerned, I believe, constitutes the most important aspect of State Hospital teaching. Many admirable medical men are lost to psychiatry because their interest in that subject had never been aroused in medical school. This is the time a student plans his career, not after two years of a medical interneship.

A residence of at least two months in a State Hospital where he can be exposed to inspirational teaching and actual case material carefully selected to demonstrate the principles taught, is invariably well received by the student. The greatest lesson he learns is an understanding of the fact that man is an unalterable combination of biology and psychology. Besides the psycho-dynamics of mental disease he finds daily use for his knowledge of neuro-anatomy; he learns to use an ophthalmoscope, the spinal puncture needle, and the nasal feeding tube correctly. It has been our experience that students are prompt to apply the principles of mental hygiene to their personal problems. Senior medical students have been coming to us only since October 1929. It is too soon to draw conclusions as to the actual number of recruits obtained for psychiatry.

Hand in hand with this training of future psychiatrists goes the training of social workers. Today the psychiatric-social-work student is a person whose education and general background warrant a teaching program of the highest grade. They come to us bristling with the theories learned from didactic lectures at the Social Service school. They need to hook their theories on to flesh and blood, test them out and correlate all the facts through the assistance of the psychiatrist. A Manic-Depressive patient is seen as a member of a household. The wife and children have been adversely influenced by his egotistical domination. They need to understand the man when he comes home. He needs a job. The family needs aid. His creditors are harassing him; their aid is enlisted in the cause of helping this patient make an adjustment. To do this they must understand the patient thoroughly. The student cannot do this alone. Teaching on these specific problems is highly important. The degree of success attained by her in the cases assigned is a big factor ininfluencing the worker to stay in State Hospital Social Service. Otherwise, the field of child guidance, visiting teacher work, industrial mental hygiene, will attract her. State Hospitals need this type of worker. Proper teaching and supervision is imperative here.

The teaching of the nurses is of a different nature. Our experience in giving them the same lectures as the social service workers has not been satisfactory. When this was done they made poor showings on the State Board Examination on Psychiatry. This might partly be due to a less extensive educational background. On the other hand such examinations are not designed to test special knowledge of underlying mental trends. I believe it takes a better teacher to teach nurses the dynamics of psychiatry than any other group in the hospital. They are more practical minded. They want clearcut, concrete, illustrations for each statement. They have little use for that which they cannot use directly for the patient. I have found them in general uninterested in Child Psychology which probably finds its explanation here. They want something tangible enough to use today and tomorrow on the ward.

While we must teach the symptoms and treatments of frank mental disorders we are equally interested in training nurses to size up the peculiarities of so-called normal people to the point where oddities of speech and behavior no longer incense them. Once they learn to substitute understanding for retaliation they have the fundamental requirements for an ideal nurse.

We have had gratifying reports of some of our nurses who are doing community work. One person wrote "she was the best nurse I've ever had. She made allowances for my queerness which invariably comes out when I'm ill." The mildly paranoid patient on the outside has a difficult time in securing nursing service. The mildly depressive or hypochondriacal patient likewise meets with misunderstanding at the hands of the average nurse. Personally if I were sick I should prefer a nurse so trained to care for me. I would not be put out if she were not familiar with Freud, Adler or Jung.

The occupational therapy student no less than the nurse needs a tolerant, sympathetic, understanding of the milder nervosities. Anyone can make allowances for a deteriorated praecox patient, but a far more discriminating sense is required in the handling of chronic orthopedic and tubercular cases who show nervous trends. However, occupational therapy workers usually want more than this. Whether they have had sufficient background to assimilate it or not depends on the individual student. Some go all the way with any other student in the hospital so far as an understanding of the psychiatric mechanisms is concerned. It is a pleasure to teach this group. As eighty percent of occupational therapy workers trained in State Hospitals go into State Hospital work, it is very important that these students be given individual instruction on their own patients by the ward physician and also a comprehensive series of lectures with special stress upon mechanisms and psychotherapy. Without such knowledge and understanding it is easy to see how occupational therapy workers go stale on the job. If they are trained in the habit of considering each patient, no matter how inaccessible as an interesting psychiatric problem and really know something about it, their work should become increasingly interesting to them even though they spend twenty-five years in one hospital.

Before touching on teaching in respect to the out-patient work, I would like to make a few comments on a rather unique side line in State Hospital teaching, namely, courses for theological students. For several years this work has been carried on by Mr. Anton Boisen, the Chaplain, and I am convinced that the results accomplished have been entirely worthy of the experiment. They are picked groups of splendid men and women, keenly interested in understanding what is going on in the minds of mental patients. Regardless of the theories and biases that they bring with them and take away with them, all of them have testified to the great benefits they have received from actual contact with patients on the ward where they have acted as attendants. Their presence is stimulating to the mental life of the hospital, and their personal interest in the patients on the ward as well as on the field of sport, add greatly to the patient's morale. Many differences between the traditional views of the psychiatrist and those of the theologue naturally exist, but frank discussion of these differences has proved very wholesome.

The Out-Patient clinics are valuable assets from the teaching standpoint. At present the Social Service workers are availing themselves of the opportunities there for knowledge of pre-psychotic behavior in the young. The medical students so far find it hard to become interested. They are probably lured by the more dramatic psychotics in the hospital. However, they are required to attend Child Guidance Clinic conferences as well as lectures on the subject.

Community instruction in mental hygiene, after ten years of propaganda, is coming into its own. Not a week goes by but what the hospital is requested to send some staff member to lecture or to conduct courses in mental hygiene, not only in Worcester but in the surrounding towns. It is not uncommon to have seventy-five or more school teachers taking a mental hygiene course. Whether or not we feel it is possible to impart much knowledge in the course of eight lectures, it is nevertheless true that the community is vitally interested in the subject and is demanding more and more information. If it accomplishes nothing more than an intelligent understanding of the methods of procedure in a Child Guidance Clinic it is worth while. Certainly the fact that our Child Guidance Clinic is swamped with referrals and the appointment books filled for three months in advance, speaks for a more enlightened community in understanding the aims of the mental hygiene movement.

RELIGIOUS WORK IN A STATE HOSPITAL

By Rev. A. T. Boisen,

Chaplain, Worcester State Hospital

Research Associate, Chicago Theological Seminary

In accordance with long-established custom, most State institutions for the mentally ill have religious services on Sunday. These services are generally paid for by the State and they are conducted in rotation by ministers from near-by churches. The superintendent is apt to be impressed by the fact of religious differences and prejudices and his main concern in the matter of religious services is to satisfy all and offend none. He is not greatly impressed by the contribution which his chaplains are making and he does not often encourage them to become better acquainted with his patients or to inform themselves in regard to their peculiar difficulties. The ministers who thus accept invitations to conduct services in the hospital feel very frequently at a loss as to what to do or say in the strange environment and in the face of these mysterious maladies of the mind and for lack of anything better they commonly give at the hospital the same sermons they preached to their own churches in the morning. Such services do no harm. They may bring comfort and cheer to some of those who attend. But such religious work can hardly be said to represent a serious attack upon the problem of mental illness and its meaning.

The experiment which has now for six years been under way at the Worcester State Hospital proceeds from the view that the disorders of the mind which the church and its servants have so strangely neglected should be of peculiar interest to the student of religion. Without failing to recognize the possible physical factors which may be involved, we see in the functional group of mental disorders the unhappy solutions of the inner conflict which the Apostle Paul describes so vividly in the seventh chapter of Romans, the conflict between the law that is in our members and that which we have accepted as our own. Such conflicts, when they result happily as in the case of Augustine, of John Bunyan, of Martin Luther, men speak of as "religious experience". When they result unhappily the sufferer is sent to an institution and men speak of him as "insane". We hold, therefore, that etween certain types of mental disorder and certain types of religious experience here exists an important relationship. Both arise out of a common situation. The ifference lies in outcome and social value. In the case of the valid types of religious xperience there is release from the burdens of fear and isolation, a new access of aith and hope and progress in the direction of inner unification and social adaptaion. In the case of mental illness there is temporary or chronic regression toward ersonal disintegration and social maladjustment. It would follow, therefore, that nly as we study the one type of experience in the light of the other will we be able o arrive at a true understanding of either one. From the service of the mentally ll we may hope, therefore, to learn much that is important to the religious worker n the understanding and control of the normal religious life. We may also hope o be able to contribute something not merely to the comfort and encouragement of his large and unhappy group of sufferers but toward the understanding of the nner meaning of their difficulties.

The conduct of the religious services which for ninety-seven years have had a lace in this hospital has been welcomed as a real opportunity. One can often say o a group what it is not so easy to say to an individual and the general message may be a useful adjunct to individual counsel and therapy. The religious services resent such an opportunity and the effort has been made to fit the sermons to the real needs and the actual problems of our patients without seeming to treat them as a group apart. "Freedom and Restraint", "Guilt and Forgiveness", "The Healing Power of Work", "Sacrifice and Victory", "The Uses of Adversity", "The Other Side of the Hill", "Moods", "The Voice of Conscience", "Desire and Prayer", "Delusion and Belief", "Our Mistakes", "The Meaning of Dreams", "Love and Hate", are samples of sermon topics which have been used. The effort has been to make the treatment simple and concrete and brief. The sermons are usually from twelve to fifteen minutes in length. The entire service is usually kept within fifty minutes. Much attention has been given to the problem of working out an order of service which would give the group a large part not only in song but in prayer and in responsive reading. Since no book could be found which was adapted to hospital use, a special "Hospital Hymnal" was compiled. In this the aim has been to provide a compact collection of hymns and prayers and passages of scripture from which the disturbing and the irrelevant have been excluded and only suggestions conveying comfort and courage and hope have been given a place. This book, which has now been on the market for three and a half years, was made possible through contributed funds which covered the cost of setting the type and making the plates and thus permitted sale at the mere cost of production.

From the beginning of this undertaking the emphasis has been placed upon the attempt to explore and interpret from the standpoint of the student of religion as well as of psychiatry the inner meaning of the experiences of particular patients. In addition therefore to the friendly contacts which we have sought to maintain with all the patients on all the wards, certain patients have been selected for intensive study and treatment. The conditions of the State Hospital lend themselves readily to such supplementary efforts, since the physician under whose direction this work is done is usually not averse to a little help with the heavy load of cases he is carrying. During the last three years special attention has been given to the analysis of the social and religious factors in the cases which are being studied in the neuro-endocrine research in Dementia Praecox. The results of the research work which has thus been done have been embodied in the following articles:

Personality Changes and Upheavals arising out of the Sense of Personal Failure.
American Journal of Psychiatry, April 1926.

The Sense of Isolation in Mental Disorder: Its Religious Significance.
American Journal of Sociology, January 1928.

The Psychiatric Approach to the Study of Religion.
Religious Education, March 1928.
Evangelism in the Light of Psychiatry.
Journal of Religion, January 1927.

The most distinctive feature of this undertaking is our plan for the training c new workers. Believing as we do that only as the realm of the inner world is explored throughout its entire range will it be possible to understand either religiou experience or mental disorder, we have been led to recognize that results will com only through long-continued, systematic, painstaking, cooperative effort on th part of all those workers who are concerned with the inner adjustments of individuals. For this reason we are seeking to confront our students of theolog with those experiences of which our hospitals are full and to acquaint them wit the results already attained by psychiatric workers in the way of exploration an interpretation. Classroom work at the Chicago Theological Seminary and at th Boston University School of Theology has provided an opportunity to do this. Th best results are, however, attained where it is possible to bring the students to th hospital and thus give them an opportunity to observe at first hand.

This project for the clinical training of theological students in the service of th mentally ill is now in its sixth year. It has seemed to work well from the standpoint of the management of the hospital and from the students themselves it ha met with an enthusiastic response.

According to the plan now in operation, these students spend most of their tim working as regular ward attendants. They are also used to take patients on hikes to edit and publish with the aid of mimeograph and bulletin board a semi-weekl news sheet and a weekly pictorial, to conduct choruses and community songs an special entertainments, to organize intra-mural baseball and inter-hospital game and to set up special celebrations on July Fourth and on Labor Day. Last yea they joined the pick and shovel gang and put through the grading of the baseball field, a task which involved the moving of some 500 cubic yards of dirt. Their remaining time is used in writing up careful notes on the behavior of their patients, in directed reading and in the study of assigned cases. For these students a forty-four hour course in psychopathology and psychiatry is given with the help o members of their medical staff. This plan is made possible only through contributed funds and it is our constant effort to give as much and ask as little of the hospital as possible.

Of the thirty-six students who have served in this hospital during the first five years, two are planning to devote themselves to psychiatry by way of the regular medical course. Three men after spending two years in this hospital are now doing similar work in other institutions. One young woman has become a psychiatric social worker. Seven are teaching or are preparing themselves to teach in theological schools or in chairs of religion or to do personnel work in colleges. Twenty-two have gone or are going into the regular pastorate. It will thus be seen that six of the number have become sufficiently interested in the problem with which they have been confronted at this hospital to devote themselves to it as specialists. The great majority are, however, going into church work, there to apply such psychiatric understanding and technique as they may have gained to the ordinary problems of ordinary people. We are not encouraging them to set up as psychotherapists or to start church clinics but are seeking to open their eyes to the possibilities which lie in their pastoral work. We believe that effective psychotherapy can be accomplished without any blowing of trumpets by any one who has more need of such understanding or who has it in his power to do more effective work in the prevention of mental difficulties than an adequately trained representative of he profession which for hundreds of years has been chiefly concerned with the nner adjustments of individuals and with their philosophy of life.

This undertaking has recently been enlarged and incorporated under the name f "The Council for the Clinical Training of Theological Students". The directors nclude Dr. Richard C. Cabot, the Rt. Rev. Henry Wise Hobson, Dr. William ealy, Dr. William A. Bryan, the Rev. Ashley Day Leavitt, D.D., and the Rev. amuel A. Eliot, D.D. The staff, in addition to the writer, includes the Rev. hilip Guiles, field secretary, the Rev. Donald C. Beatty, chaplain of the Pittsurgh City Home and Hospital and the Rev. Alexander D. Dodd of the Rhode sland State Hospital. While the name of the new organization emphasizes the linical training of theological students, it may be added that one of its important unctions will be the training and placing in State Hospitals of men who are well rounded not merely in the history and psychology of religion but also in the rinciples of psychiatry and who are ready to devote themselves as specialists to he service of the mentally ill. We hope, therefore, that this may mean a step in he direction of religious work in State Hospitals which shall be something more than a gesture.

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BY

GEORGE M. KLINE, M. D.
DOUGLAS A. THOM, M. D.

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CLINICO-PATHOLOGIC CONTRIBUTION TO THE CONCEPT OF NEUROSOMATIC DETERIORATION IN EPILEPSY WITH REPORT OF TWO CASES

by Morgan B. Hodskins, M.D.
Superintendent of Monson State Hospital
and
Paul I. Yakovlev, M.D.
Assistant Physician Monson State Hospital

In a previous paper (1) on the clinical study of a large number of epileptic patients we expressed the view that the progressive changes developing in epileptics in the course of time have a definite symptomatology and evolution which can be described in neurological terms. We called these progressive neurological changes "neurosomatic deterioration". Derived solely from clinical observations, this view was a purely clinical concept; it was natural, therefore, that we looked for an opportunity to study the pathological changes that might underlie the symptomatology of deterioration.

Two cases have come to autopsy and as both of them had fairly complete case histories these brains were submitted to microscopic study.*

CASE I.

Clinical Case Record

Irving G., a boy, aged 12 years, was admitted to this Hospital because of epilepsy and advanced mental and physical deterioration.

Family History. The family history is negative as to epilepsy, nervous or mental diseases, alcoholism, or syphilis. Both parents are living and in good health. Mother had nine pregnancies; the first, a pair of twins, — both died in early infancy, one of congenital heart trouble, the other of some acute gastrointestinal disorder. The second pregnancy was a sixth month abortion. Then she had seven living children of whom the second died at nine months of "spinal meningitis", and the sixth is the patient. The other five children are living, all in good health and of normal mental and physical development.

Personal History. Patient was born at full term following a normal labor. He had no illnesses except whooping cough at eight months and measles at eighteen months. He had no convulsions, spasms or other complications accompanying or following these illnesses. He cut his first tooth at five months and teething was not difficult. He began to talk at one year of age and walked at thirteen months. He was a strong and healthy baby until 1918 when he was three and a half years of age, at which time he had influenza; he was ill for several weeks, had a high fever, and was delirious. A week after he was taken ill the mother noticed that his left arm and left leg were paralyzed. He recovered from this illness and his paralysis cleared up but a month later he had his first epileptic attack. As he grew older the attacks became more severe. When he was six years of age he was admitted to a State School for feebleminded children where he remained for six years. The

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*For this study we are largely indebted to Professor Stanley Cobb of the Harvard Medical School who kindly helped us by permitting the use of the resources of his laboratory, and especially by his advice and guidance during the study of microscopic sections.

** *There are still available copies of the Fernald Memorial Bulletin, at fifty cents each. Address Department of Mental Diseases, Room 109, State House, Boston, Mass., U.S.A.*

abstract from this institution states: "Talks little except to swear; will sit about with dropped head — a typical picture of the terminal stage of epilepsy. The epileptic convulsions are fairly frequent, although lately he goes almost a month with only one or two. At other times he will have seventeen or more in a series."

On August 12, 1927 patient was admitted to the Monson State Hospital. *Physical Examination* showed a boy poorly nourished and developed. Shape of head normal. Face symmetrical. No stigmata of degeneration. Extremities were cold, clammy, and cyanotic. Heart sounds were of fair quality; no murmurs heard. Lungs were negative. Liver and spleen were not palpable. Abdomen negative. Urinalysis negative. Wassermann of the blood negative.

Neurological Examination. Since admission patient is permanently confined to bed and does not show any spontaneous impulse to walk. His habitual body position is quite characteristic. Lower extremities flexed in the knees and hips, the thighs drawn up on the abdomen. Spontaneous voluntary movements in lower extremities are reduced to a minimum; however, when uncovered, one observes sometimes that the patient can extend the flexed lower extremities in a slow and incomplete fashion. The thighs are always in adduction. Knees tightly joined together. The feet are plantar flexed and outward rotated, toes pointing down; no tendinous retractions in the knee joints but a moderate Achilles tendon shortening on both sides prevent a full dorsal flexion of the ankle. Some retractures present in the flexors of toes. In the upper extremities a considerable amount of spontaneous voluntary movement is present. The usual position of the upper extremities is cross flexion on the chest so that the fists are under the chin; however, when disturbed, the patient spontaneously changes this position, bringing his hands on the flexed knee, or putting one or both hands under the head. When forced out of bed patient can stand on his feet and is able to take a few steps. The attitude of the body is quite typical; it is rigid and stiff in all segments, head bent on chest, trunk inclined forward, shoulders and thighs adducted, flexed at the elbow, hip and knees, arms held stiffly, hands in a semi-closed position, while knees are tightly adducted and feet spread apart and everted. The stone-like immobility of the body appears to be distinctly increased when the patient is forced to stand on his feet. The face, especially the lower part, is mask-like, inexpressive, as if frozen. The lower jaw droops and strings of saliva drool from the corners of the mouth. Patient has a vacant look. If pushed, he takes a few short, irregular steps, and if one insists in making him walk, he stumbles and eventually falls, as in one piece. The gait is spastic. The muscular hypertonia increases with the effort to keep erect and walk. When the arms are extended and fingers spread, there is a tremor in both hands. The test of passive movements in the extremities reveals a distinct antagonistic resistance with irregular intermittent or remittent rigidity. This muscular rigidity, though generalized throughout the body, distinctly predominates in the proximal parts of the extremities and is more pronounced in the lower extremities than in the upper. In the lower extremities the contracture of flexors is especially intense, the antagonistic resistance on passive extension of the leg being distinctly greater than on passive flexion. The same feature is present in the upper extremities but in a much lesser degree. Patellar reflexes exaggerated and hypertonic with a pronounced hamstring phenomenon and fixation of the leg in the extension phase. Radial and ulnar reflexes exaggerated and hypertonic. Plantar reflex on the left side is extensor; on the right side the response is dull and shows a tendency to extension. Pupils equal; both react to light very sluggishly. Mastication slow; swallowing difficult; he chokes and liquids are regurgitated through the nose. He does not talk spontaneously and swears when disturbed. He is untidy but not incontinent; there is no retention, no automatic micturition, no dribbling. Patient has no bed sores or other lesions of a neurotrophic type.

During the month of August after his admission there was recorded only one severe epileptic attack; in September a series of twelve; in October six; and in November he had a series of thirty-nine severe subintrant epileptic convulsions, which resulted in his death the 16th of the month at twelve years eight months of age, nine years since the onset of the first symptom of epilepsy.

COMMENT

The symptomatology and the evolution of the condition in this case were typical of the series of cases we have described in the previous publication (1). Except a miscarriage and a pair of twins who died in infancy the other children of the same stock were in good health and apparently of average mental development. Up to the age of 3½ years patient was in good health and developed as a normal child. At 3½ years of age he had an acute illness — probably influenza encephalitis — which caused the primary cerebral lesion. The latter was evident from the fact that the acute illness was complicated with left side paralysis and followed by epileptic convulsions. From that time on deterioration set in and followed a definite course. Two and a half years later his mental condition necessitated his admission to a school for feeble-minded. While in this institution he developed a characteristic akineto-hypertonic syndrome as is evident from the abstract of the medical record: "Talks little except to swear; will sit about with drooped head — a typical picture of the terminal stage of epilepsy." This record testifies also of another feature pertaining to the course of convulsions and to which we drew the attention in our publication already referred to; the convulsions on the whole diminished in frequency; "lately he goes almost a month with only one or two", but at the same time instead of frequent isolate seizures patient showed a tendency to fits in series: "At times he will have seventeen or nineteen in a series." The deterioration followed a slow but steady progress and when he came under our observation at the age of 12 years he presented a full blown picture of an advanced stage of neurosomatic deterioration — generalized muscular rigidity, flexion attitude of head, trunk and extremities, contracture of flexors predominating in lower extremities, bilateral extensor response, symptoms of pseudo-bulbar type, and profound dementia.

PATHOLOGICAL CASE RECORD

Autopsy was performed November 16, 1927, six hours after death. The body was that of a twelve year old boy, greatly emaciated. Post-mortem rigidity fixed the attitude which was characteristic for him during the latter part of his life; that is, the attitude of flexion of lower extremities on the abdomen and flexion of the upper extremities on the chest, fists closed and brought under the chin.

Thoracic Cavity: Thymus gland was in a state of full involution; only slight rudiments of this structure were found. Pleural cavity contained about 50 c.c. of fluid. Pleural adhesions were present in the posterior aspect of the apex of right lung. Lymph glands of hilum were not enlarged. Lungs of grayish pale color without indurations, crepitating on pressure, yielding on the cut surface a white foamy fluid. Heart was small (115 grams); left ventricle contained well formed blood clot extending into the aorta; about 20 c.c. of fluid were found in the pericardial sac. Heart muscle, orifices and valves appeared to be normal.

Abdominal Cavity: Transverse and descending colon were much distended. The hepatic and splenic flexures were about three times smaller in diameter than the rest of the colon without evidence of scars or peritoneal adhesions. Liver was found to be very small and hard (475 grams). Surface of the liver was finely granular with whitish yellow, irregular, patchy areas. Capsule was adherent, especially underneath these areas. Liver was pale and on the cut surface was granular and grayish, with yellow streaks; on palpation, minute nodulations were felt. Spleen appeared to be normal (35 grams). Left kidney (52 grams) and right kidney (60 grams) were found to be normal. Capsules were not adherent. Left adenal (1.4 grams) and right (1 gram) were small and on the cut surface there was found a few minute hemorrhagic spots. Pancreas (50 grams) was normal. The remaining abdominal organs, on gross inspection, did not present anything unusual.

Head and Cranial Cavity: Calvarium was easily detached from the dura. Dura was normal. After incision a clear cerebro-spinal fluid escaped. Dura was adherent to the hemispheres along the longitudinal fissures. Pacchionian bodies were well developed and were calcified. A few adhesions were found on the convex surface of the brain over the parietal, occipital and temporal lobes. Cerebral hemispheres were of normal size but much harder in consistence than is usually the case. The gyri were flattened as if under pressure. Pia had normal appearance.

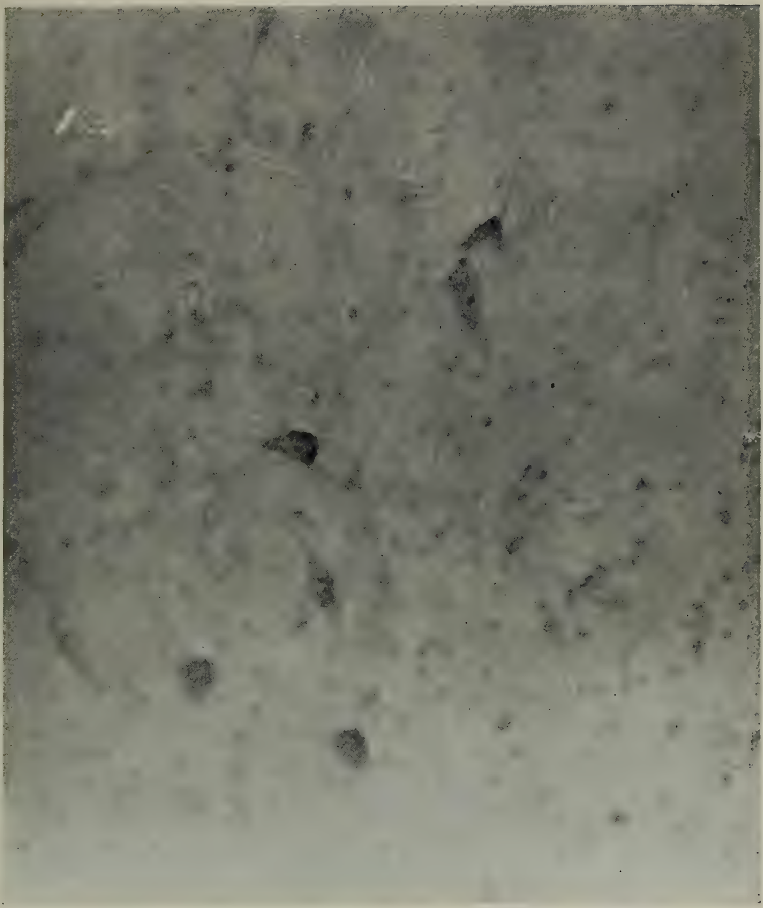

Figure 1. Case I. I. G. Pallidum. Progressive gliosis. Proliferation of glial nuclei. Dropping out of nerve cells. Many of those remaining show shrinking with characteristic spike-like processes. Some are swollen.

Pial vessels were congested. The external configurations of the brain and cerebellum did not show anything abnormal. The section of the cerebral hemisphere showed a considerable dilatation of the lateral ventricles. The cortex appeared to be somewhat thin. Weight of brain and cerebellum — 1200 grams.

Spinal cord was removed and macroscopical examination did not show anything abnormal.

HISTOPATHOLOGICAL STUDY OF THE CENTRAL NERVOUS SYSTEM AND OF VISCERAL ORGANS

Small pieces of liver, spleen and pancreas were put into Zenker solution for histological study. The brain and spinal cord were placed in a 10% formalin solution.

Liver. (H+E) shows diffuse increase of connective tissue but no bands or special distribution of it. The blood spaces are congested. There are a few pin point hemorrhages and acute degeneration of liver cells with vacuolization and agonal and post mortem alterations. Capsule of the liver is thickened.

Spleen. (H+E) shows congestion and thickening of vessel walls, especially of arteries; otherwise normal.

Pancreas (H+E) is congested. There is an acute degeneration, vacuoles in the cells, and agonal and post mortem alterations.

Brain. The brain was well hardened and small pieces from different convolutions of the frontal, parietal and occipital cortex, larger pieces from the basal ganglia and pedunculo-hypothalamic region, from the cerebellar cortex, and dentate nucleus, from the pons, medulla, and from the three levels of the spinal cord, were taken for sections. Most of the microscopic preparations were made on frozen sections. Fairly complete series of Nissl, Van Gieson, and Spielmeyer were made from pieces of each region; few H+E, Scharlach R. Weigert (from medulla and spinal cord) were added.

Cerebral Cortex, in general, shows marked capillary and venous congestion with some hemorrhage into the sub-arachnoidal space and a few perivascular extravasations. In several places large empty veins are found and in others there are collections of cavernous veins. The pia is thick and infiltrated with lymphocytes, plasma cells and gitter cells. A few red cells were found free; in one place (parietal section) small hemorrhage is seen partly organized. The walls of the arteries are thicker than one would expect in a child. The perivascular spaces are wide. A few empty spaces, like veins, are seen lined with endothelium but containing no blood. In other places small groups of large veins are found together, making almost a cavernous tissue. Following the periphery of the cortical section one finds sometimes bridges of pia adherent to the cortex by a few stripes of fibrous meningeal tissue and underneath these adherences a fibrous overgrowth of marginal glia penetrating into and interlacing with the pial fiber cells. The overgrowth of a thick mesh work of glia fibers under the pia on the periphery of the cortex can be followed throughout on several sections and appear to be especially pronounced in the frontal region. There was a considerable degree of marginal gliosis.

All six laminae of the cortex can be differentiated in all sections; however, in sections from the frontal cortex, and to a lesser extent in sections from occipital cortex, in some places this differentiation becomes difficult as the most characteristic landmarks of the third and fifth layer are considerably changed as to the number and morphology of their cellulary elements.

Frontal Cortex. Left hemisphere: On the whole the sections from frontal cortex show the most conspicuous pathological changes and this especially in the third and to some extent in the fifth lamina. Number of large pyramidal cells appear to be reduced. Many nerve cells are shrunken, show vacuoles in the cytoplasm and eccentric nuclei. Many cells in the fifth lamina, especially, have eccentric nuclei and dark stained homogenous protoplasma. With Scharlach R stain, fat is found in almost every pyramidal cell. The third and fifth lamina are more conspicuously affected than the outer laminae. The small blood vessels are congested and there is an occasional blood extravasation.

Parietal Cortex. Left hemisphere: Quite a few ganglion cells in this region appear to be in good condition. Many others show distinct cytomorphologic changes.

Many of these cells are shrunken. Occasionally large swollen cells with pale and cloudy cell body, eccentric, poorly outlined nuclei, and thick, distorted dendrites are found. Nissl substance in these cells is reduced, appearing dust-like. Gitter cells and neuronophagic pictures are frequently met with. The third layer is especially the seat of these cell changes.

Occipital Cortex. The picture of cytomorphological changes is more severe than in the parietal cortex. Many shrunken cells with hyperchromatic homogenous protoplasma and eccentric nuclei, with rich intracellulary fat deposits.

Diencephalon and Pedunculo-hypothalamic Formations. The basal ganglia are more affected than the cortex and appear to be especially so with regard to the more advanced vascular changes and also with regard to the secondary gliosis, replacing the massively dropped out nerve cells. The nerve cells changes are similar to those in the cortex. They appear to be, however, more conspicuous and more varied. Studying the sections from the different gray formations of the subcortical region, one finds that sections from the pallidum and pedunculo-hypothalamic region (corpus Luysi and red nucleus) exhibit far more profound lesions than those from thalamus, caudate nucleus and putamen.

Globus Pallidus. The vascularity of this nucleus is tremendously increased. The vessel walls are thickened, often calcified, tunica intima split off the media, small arterioles have a corkscrew appearance and the enormously proliferated capillaries are sharply angulated. The veins are often drawn into groups and knots. Throughout this section one finds small pin holes of mucoid degeneration. Profuse overgrowth of glial fibers and numerous glial nuclei are another striking characteristic of this formation (Figure 1.) The typical large pallidal nerve cells are greatly diminished in number and distributed with extreme irregularity into islands of from five to twenty cells separated by the clear zones of cell devastation, filled with glia. The remaining ganglion cells show chronic and acute changes; swollen cell bodies heavy dendrites, chronic shrinkage with dark hyper-stained and homogenous protoplasma. Many nerve cells are found in a state of cytolysis with irregularly outlined cell body containing sometimes large vacuoles and indistinct nucleus. The nuclei are often split and some of them are also vacuolated. All degrees of neuronophagia are observed from simple exaggerated satellitosis to formation of glial clusters around fragments of a disintegrated cell; of the small pallidal cells only a few remain, showing degenerative alteration.

Putamen and Caudate Nucleus. Both show proliferation of capillaries, fibroglial overgrowth, and many cytomorphologic changes — eccentric nuclei, acute swelling, shrinking, breaking up of Nissl substance, dark homogenous cytoplasm, neuronophagia.

Thalamus. The Thalamus shows similar changes, though not so pronounced. The number of cells in the pulvinar appear to be somewhat diminished. Numerous glial nuclei. Many cells are shrunken. Most of the cells have eccentric nuclei.

Corpus Luysi and Red Nucleus are the seat of conspicuous changes, especially the first, which in this respect is comparable to the globus pallidus, without, however, so much of secondary sclerotic alterations. In the red nucleus axonal reactions were especially conspicuous.

Unfortunately, in cutting sections from peduncular region, the substantia nigra was missed.

The wall of the third ventricle showed irregularly festooned ependyma and a dense sub-ependymal overgrowth of glia without nuclei.

Cerebellum and Dentate Nucleus. The cerebellum was involved by the same diffuse degenerative process as the cortex and basal ganglia, though to a lesser degree. All three laminae of the cerebellar cortex are well developed; however, the string of Purkinje cells shows occasional gaps where the cells have dropped out; those that remain are often pale with an obscure nuclear outline and sometimes the nucleolus is missing. Many cells are present in relatively good condition. In the dentate nucleus the nerve cells are somewhat fewer than normal and the fat stain showed that many are filled with pin sized fat granules. Occasional places are seen where the cells are lacking and glia nuclei and fibriles replace them. Many cells are pale, swollen, and have eccentric nuclei.

From the *Pons* no sections were available.

Medulla. Marked congestion of all the blood vessels,especially the small veins; every now and then there is found an extravasion of blood into perivascular spaces. There is no inflammatory infiltration with leucocytes. The ganglion cells show acute ischemic swelling and shrinkage. The main picture is one of an extreme congestion. This is probably agonal and explains the death in convulsions.

Spinal Cord. Sections from cervical, dorsal and lumbar regions are normal with the exception of a moderate congestion of the blood vessels. The anterior horn cells are well preserved.

Comment:

It appears from the microscopic study of the lesions in the central nervous system that we are dealing with a diffuse pathologic process, sparing the spinal cord, and massively involving the cerebrum. Three main types of lesions can be discriminated in the latter:

1. Old, largely organized, inflammatory vascular lesions affecting especially the basal ganglia and the cortex.
2. A chronic evolutive process of atrophic and degenerative nature, secondary to the just mentioned primary vascular inflammatory cerebral lesion. These secondary changes were most prominent in the third and fifth laminae of the frontal cortex, in the pallidum and pedunculo-hypothalamic formations.
3. Acute congestive and ischemic lesions confined almost exclusively to the medulla.

Evidence of an old inflammatory lesion is shown by the vascular changes, especially those in the basal ganglia and in the cortex. These vascular changes consist of an intense proliferation and thickening of capillaries, veins and arteries, calcification of vessel walls, thickening of the pia with many adhesions to the cortex (chronic lepto-meningitis). The formation of an almost cavernous tissue in the places where the veins were agglomerated into groups and knots is interesting in connection with the observations of Dr. Cobb (2) on "The Pathologic Sequellae of Epidemic Encephalitis". We have good evidence of an old organized meningo-encephalitis which left a scar particularly severe in the basal ganglia. The acute illness, with delirium, fever, symptoms of meningitis and pneumonia, partial paralysis, that this patient had in 1918 when 3½ years old, was very likely the cause of this inflammatory cerebral lesion.

The primary cerebral lesion was followed by an apparent improvement. The partial left sided paralysis cleared up; however, grave and progressive symptoms set in soon afterwards, testifying that the acute vascular lesion was followed by a chronic evolutive process which kept on, gradually becoming more diffuse. This chronic secondary process consisted of:

a. Dropping out of nerve cells.

b. Diffuse secondary gliosis with proliferation of fibroglia and of glial nuclei marginal gliosis, sub-ependymal gliosis.

c. Chronic atrophy and degeneration of nerve cells shrinking, cytolytic changes, mucoid degeneration, fatty degeneration.

Though eminently diffuse, the secondary lesions were distinctly more pronounced in the cortex and in the basal ganglia than elsewhere in the brain. In the cortex the frontal lobes were most affected. In the basal ganglia, globus pallidus, corpus luysi, and red nucleus, were injured with greater severity than the other diencephalic nuclei. We believe that this chronic secondary degenerative process, especially the secondary gliosis, and atrophic nerve cell changes can be regarded as the pathology of neurosomatic deterioration. The prominence of the lesions in the large cells of the third and fifth laminae, of the frontal cortex, and in the globus pallidus, seem to be of particular interest in relation to the fundamental features of the clinical symptomatology of the case, that is, the progressive dementia and the akineto-hypertonic symptomcomplex (progressive rigidity).

Going further into the correlation between the clinical course of the case and post mortem pathological findings, we see that the patient died following a long series of convulsions which ended in a status. The acute and severe circulatory changes in the brain, associated with convulsions is a constant phenomenon. Spielmeyer (3) has pointed out the acute ischemic cell changes in the brains of epileptics, resulting from such circulatory disturbances. Gildea and Cobb (4) experimentally produced similar ischemic changes in the brains of animals. In our case we have a sufficiently evident and adequate counterpart of such acute circulatory disturbance and associated with it acute ischemic lesions of the nervous parenchyma, affecting particularly the medulla. It is these medullary changes, constant in patients who died in epileptic attacks, or in status, that lead Schroeder van der Kolk (5) and later Nothnagel, to build up the so-called bulbar theory of convulsions. These changes in medulla are secondary and may explain the death by acute bulbar paralysis that results from status epilepticus. The findings in the viscera of our case, namely — heart arrested in diastole distended intestines, lungs filled with serous fluid and mucous, seems to justify this deduction.

CASE II.

Clinical Case Record

Thomas D., born August 18, 1862; died in coma following chronic nephritis and arteriosclerosis March 7, 1928.

Family and Personal History. Patient is of English origin. One brother died suddenly ("dropped dead") at 57. Another brother died of epidemic influenza at about the same age. Three other brothers are living and well. Patient attended school and went to the fourth standard. He went to work at 8 years of age on half time; at 13 he worked full time, mostly in cotton mills; later he worked as a machinist. In 1911, when 49 years of age, he came to the United States and continued to work as machinist in cotton mills. Two years later, in 1913, when 51 years old, he had his first epileptic attack and has had them ever since. They were at first only petit mal; he would lose consciousness, would talk incoherently, and would appear confused for a while but he had no convulsions. Later, attacks became more severe; he would fall, convulse, bite his cheek; consciousness was always lost. In course of time his general condition gradually failed; he became irritable. depressed, and forgetful. July 2, 1927, by his own volition, he was admitted to Monson State Hospital. On admission he complained of epileptic attacks, shortness of breath, insomnia, general weakness, and loss of weight. From the social information it was learned later that he used to drink to a considerable extent.

Physical Examination. Well developed but rather emaciated male of 64, looking older than his age. Lungs are normal. Left side of the chest over the heart is more prominent than the right. Heart enlarged; "bruit de galop". Blood pressure: 178/98. Blood Wassermann negative. Urine diminished in quantity and contained albumin. Mentally, patient was fairly well oriented; somewhat depressed; at times talkative and childish.

Neurological Examination. (August 9, 1927). Attitude of body somewhat stooped. Distinct tremor of both hands. Deformities of last two phalanges of the third, fourth and fifth fingers on both hands. The heads of these phalanges are enlarged and a full extension of the fingers is impossible. Patient claims that he has had this deformity of fingers as long as he could remember; these joints changes look as if their onset was in later life, though of long duration.

Muscle tonus increased in the neck, trunk and extremities. Distinct cog-wheel phenomenon present on passive flexion and extension of elbows on either side. Cog-wheel resistance is observed also on passive extension and flexion of either of the knee joints. Reaction of antagonists is greatly exaggerated. Tonic postural reflexes are exaggerated, especially so in the right ankle. The gait on the whole is not impaired except some rigidity in the head and trunk and a distinct lack of associate movements, particularly in the right arm. Tendinous reflexes of the upper and lower extremities are all present and typically hypertonic, reduced in amplitude, intense, but of relatively high threshold, and they are not diffuse. The patellar reflexes on both sides are particularly characteristic by highly exaggerated antagonistic contraction of the hamstrings. Plantar reflexes are flexor on both sides. Cremasteric reflexes are present on both sides. Abdominal reflexes are not obtained. The abdominal muscles are rigid and tense. No combined flexion sign. No foot clonus. Reflexes of defense — the emotional reaction to unpleasant stimuli appears to be much reduced; on pinching, the skin of the ankle, no emotional or motor reaction ensues. No sensory disturbances were present. Hearing somewhat impaired. Vision diminshed on account of presbyopia. Face symmetrical. Eye movements are free. No nystagmus. Pupillary reflexes normal. No paralysis of cranial nerves. Speech is not impaired. Facial expression is somewhat immobile and mask-like. So long as the patient is engaged in a conversation the activity ot the facial muscles does not show anything abnormal but if patient is left alone, then a slight drooping of the lower jaw takes place and the lower part of the face has a frozen appearance. Since his admission on July 2, 1927, up to January, 1928, patient has had a few attacks of petit mal, usually announced by a sensation of vertigo, and followed by ambulatory automatism and complete amnesia. During this period he had one severe epileptic attack. Urinalysis constantly showed presence of albumin, epithelial and fatty casts. The amount of urine was much diminished (750 to 600 c. c. per 24 hours). Blood pressure remained high. Reduplication of the first beat was always present. The general condition of patient steadily failed.

Neurological Examination. (January 31, 1928) Tremor of fingers. Cog-wheel phenomenon on both sides. Hepertonic tendinous reflexes. Plantar reflexes flexor. Combined flexion sign appeared on right side. Oppenheim sign was elicited on the right. On testing reflexes of defense an over-active hyperalgesic emotional reaction was observed. Fibrillary and fascicular muscular contractions were present in the pectorals, muscles of arms, thighs and in the muscles of the back. Patient is often disoriented, excessively talkative, and sometimes incoherent. Blood pressure: 200/50. "Bruit de galop". Albumin in urine in large amount. During February symptoms of uremia developed. He was confined to bed and was much distressed by shortness of breath. Blood pressure remained high. There appeared some edema of legs and morning puffiness of the face. Quantity of urine fell to 250 c. c. per 24 hours. Since March 4 patient was in a coma and died March 7, 1928 at 65½ years of age.

Comment

It is obvious that we deal in the present case with cerebral arteriosclerosis in an aged man with chronic nephritis, high blood pressure, and cardio-vascular disturbance. The epileptic attacks which in this cases developed after the age of 51, have a different clinical meaning than those of the first case, a 12 year old child, with post-encephalitic epilepsy. The basis of the progressive deteriorative changes in this case was cerebral arteriosclerosis with chronic nephritis. He died in coma. The neurosomatic deterioration in this case was an arteriosclerotic deterioration, showing Parkinsonian symptoms as described by Macdonald Critchley (6). In our previous publication, already referred to, we pointed out the clinical analogy of both symptomatology and evolution of neurosomatic deterioration in epilepsy and in arteriosclerotic Parkinsonism. Indeed, the present case has all the requisites necessary for an illustration of neurosomatic deterioration. There is epilepsy, progressive akineto-hypertonic symptom complex with typical postural changes, generalized rigidity, and tremor, there is association of pyramidal symptoms at the terminal period (combined flexion, Oppenheim); there is a coincident shift of emotional reaction to painful stimuli from emotional indifference to emotional hyperalgesia; there is progressive dementia.

Pathological Case Record

Autopsy performed March 8, 1928, twenty-four hours after death.

Thoracic Cavity. Pleural cavity contained a large amount of transparent yellowish fluid. Few old adhesions over the posterior aspect of the left lung. Both lungs, especially the left, were much congested and edematous. Weight of left lung, 1100 grams; of right lung, 750 grams. Heart was much enlarged, about twice its normal size. Left ventricle hypertrophied. Heart muscle on the cut surface appeared of brownish color and very soft. Mitral valves showed considerable stenosis with calcareous deposits in the valves. The aorta appeared normal. Right ventricle contained a blood clot with yellow fibrinous coagulum; weight of heart, 565 grams.

Abdominal Cavity. Peritoneal cavity contained much of clear ascitic fluid. Liver (1375 grams) was of small size, gray in color, and of hard consistence. Capsule adherent. On cut surface the liver substance was gray, finely nodulated, and sclerotic in appearance. Gastro-intestinal tract did not show anything unusual. Spleen was small, bluish red. Left kidney (100 grams) contained a cyst of the size of a walnut over the outer and posterior aspect. Capsule easily stripped off. Kidney was small. On the cut, cortical and medullary substances were not differentiated. Right kidney (90 grams) small. Cortical and medullary matter not differentiated. Capsule easily stripped off.

Cranial Cavity. Calvarium was easily detached from the dura. Dura thick, not transparent, of whitish color. After incision a large amount of spinal fluid escaped. Dura adherent to the brain cortex along the longitudinal sinus. Pia transparent and much edematous. Cerebral hemispheres were of very hard consistence and the frontal lobes appeared atrophied with shrunken convolutions and deepened sulci. Basilar arteries showed very pronounced arteriosclerosis. Weight of brain and cerebellum, 1490 grams. The spinal cord was not removed.

Histopathological Study

The histopathological study was conducted in the same manner and with the same histological technique on frozen sections as in the first case. Series of Nissl, Van Gieson, Spielmeyer, few H + E preparations, and few Weigert preparations from medulla, cervical cord, and dentate nucleus were made on celloidin blocks.

Meninges are very edematous, sub-arachnoidal spaces distended, and along the trabeculae and around the vessel walls one finds many light refracting, dark stained, pigmented corpuscles. Meningeal vessels appear to be increased in number, often they are in groups, and have thickened walls.

Cerebral Cortex. Vascularization of the cortex and of the subcortical white matter is much increased, mostly by the venous elements and by proliferated capillaries. Perivascular and perineural spaces are much dilated (from edema?), free of any round cell infiltration. From the cortical periphery, towards the white substance, shoot off long pial invaginations, carrying vessels and containing corkscrew shaped arteries with thickened walls. All the larger arteries showed a thickened, calcified, or hyalinated wall. This is particularly well shown in the Van Gieson preparations; the vessels are tortuous, their lumen irregular on account of plaques of calcification.

The intima of larger vessels appears festooned and often split from the media. The gitter cells, loaded with detritus, are often seen around the small vessels and capillaries in the perivascular spaces. It is in the deeper laminae and especially underneath the third layer that the vascularization is particularly increased. There are seen many holes where the vascular rings have fallen out or have shrunken and have been drawn to the periphery. The parietal and especially the frontal cortex show more marked vascular changes than the occipital cortex.

In general, the cortical lamination can be recognized but this is not true throughout the whole cortex. In many sections and often in many places in the same section, especially those from the frontal cortex, and to a lesser extent parietal cortex, the third lamina has lost its cyto-architectural characteristics and the differentiation between the third and the deeper laminae becomes difficult. Another factor disturbing the normal architecture of the cortex is the more or less widespread, irregular, areas or clearings, in which very few, or no nerve cells are left, these cells being replaced by a fibrous overgrowth of neuroglia and glial nuclei. These areas of devastation affect especially the third layer and are more prominent in the frontal cortex than in the parietal cortex. They were not observed in the sections from the occipital cortex. The perivascular gliosis in the shape of a clear area around the vessels,with a ring of pushed away nerve cells, is frequently met with in sections from frontal and the parietal cortex.

The nerve cells are diminished in number. This is most obvious in the third layer. In general one can recognize the three cellulary zones of this layer, small celled outer zone, medium celled intermediate zone, and large celled inner zone, but in many places, especially in the sections from the frontal cortex, the large pyramidal cells of inner zone appear so scarce and shrunken that this differentiation is difficult. Quite a few cells in the first layer contain dark pigmented, light refracting inclusions. There are other types of "Abbauprodkte" found fairly constantly in the cortex and in the sub-cortical white matter, mostly around the blood vessels, but especially numerous around the vessels and underneath the pia of the insular cortex. These are round, homogenous, blue stained (Nissl) non-refracting bodies packed around the large arteries and increasing in number near the pia. Similar corpuscles are present around the Sylvian acqueduct and underneath the mid brain meninges. These corpuscles look like, and probably are, amyloid bodies.

The nerve cell changes in the cortex affect with distinct predilection the elements of the third layer (large cell zone). In the occipital cortex many cells appear to be normal, less in the parietal cortex. In the frontal cortex most of the cells are pathologically altered. These cells are atrophic, shrunken, some in a state of acute swelling, degenerated, or completely destroyed being replaced by glial clusters, around their fragments. The shrinking of the cell bodies is a common and widespread form of cell change. Quite often one finds tremendously swollen cells with pale bodies, thick tortuous dendrites, Many cells of the third layer took the stain irregularly; some of them showed the Nissl bodies in clusters and many contained dark stained fragments and corpuscles. Some cells showed actual caryolisis, the nuclei being broken up, fissured, or split apart. Satellytosis is increased around these cells and neuronophagic pictures are often observed.

Glial activity is distinctly increased in the cortex. The glia is hyper-stainable; in one place, from a Nissl preparation, of the parietal cortex, a blood vessel was cut slightly and the astrocytic glial lining of the vessel wall could be distinctly seen. Under the high power this pervascular glia appeared as a lacework of dark stained fibriles and dark stellate glial cell bodies. In many places in the third layer of the frontal and parietal cortex, very large glial cells were found. Under low power, they appeared as small vacuoles but under high power one could see the large rich in plasma cell body with short and heavy prolongations, a small nucleus pushed to the periphery, and almost every one of these cells contained from one to three ganglion cells — in a state of cytolysis. In the Van Gieson preparations the profuse secondary gliosis was well shown. Underneath the pia there was observed a marked degree of marginal gliosis consisting of a thick network of glial fibriles but with few glial nuclei. In the white matter, on the yellow background of nerve fibers, one could see brown pink, irregular patches of glial fibriles and numerous glial nuclei.

Spielmeyer's preparations for myelin sheets do not show any actual demyelinisation; however, under the high power one can see moderate myelin changes. The myelin sheaths along the nerve fibers are irregular, often bulging, heaped up into granules, sometimes broken into dark fragments, or retracted into clear droplets.

Basal Ganglia and Pedunculo-Hypothalamic Formations. The ependymal lining of the ventricular wall in some places appears festooned. One observes underneath the empydema a proliferation of a dense fibroglial network with a heaping up of glial fibriles forming granules. The whole diencephalic region contains many amyloid bodies already described. In some places one finds regularly outlined pinholes of mucoid degeneration.

Vascularization of the whole region, including the peduncles, is much increased. The vessel walls are thick, calcified, often collected into groups and knots. The capillaries are intensely proliferated.

The nerve cell alterations are widespread and varied. Two types of alterations can be discriminated, acute or ischemic swelling and chronic changes consisting of reduction of the number of nerve cells, shrinking, hyperchromotosis. Secondary gliosis is so advanced in some places as to form an actual glial scar in this region. Thick, fibrous overgrowth with proliferation of glial nuclei in some places and without glial nuclei in the others, differentiate the old lesions from the chronic but relatively recent and active processes. The formations of the diencephalic and pedunculo-hypothalamic regions are not equally degenerated. From this standpoint they can be divided into two groups — thalamus, putamen and caudatum, forming one relatively less affected group, and pallidum, corpus Luysi, substantia nigra, and red nucleus, the other more affected group.

Thalamus. The number of ganglion cells is not obviously diminished. All three principal nuclei which could be studied from sections in this region could be easily recognized, not only by their topography, but even from the characteristic cytoarchitectural features. Vascularity is increased. Capillaries are proliferated. Few zones of perivascular gliosis with disappearance of cells around the vessels can be seen. Most of the cells of the thalamus are in a state of acute degenerative change. Satellytosis is increased and neuronophagic pictures are often met with. Some cells are completely destroyed. Glial clusters are heaped up around their fragments. Swelling is more common but shrinkage of cells is also observed. Many cells are filled with granular lypochrome pigment.

Putamen. Vascularity is much increased. Capillaries proliferated. The vessels have thickened walls and about them areas of degeneration with no nerve cells but increased glial nuclei. There are many small nerve cells fairly well preserved. Most of the cells, however, show acute and chronic alterations, similar to those described in the Thalamus. There are many amyloid bodies.

Nucleus Caudatus is the most affected of the three formations of the group under consideration. There is diminution of cells and of those left only a few appear to be in good condition. The whole nucleus is largely replaced by thickwalled vessels and great number of amyloid bodies.

Pallidum. Of the whole brain the Pallidum is the most affected. There are wide areas in which the nerve cells are literally swept out and replaced by dense, thick, fibrous overgrowth, showing an advanced stage of secondary gliosis, without increase of glial nucleui (Figure 2). Only a few small islands remain in which the ganglion cells are found and these are in a state of degeneration. This sclerotic state of the globus pallidus is obvious even macroscopically in the Spielmeyer preparation by its pale, transparent, appearance. The tremendous increase of thick vessels and capillaries, many holes with fallen out vessels, advanced perivascular gliosis, complete the general picture of the lesion. The inner and intermediate segments are more affected than the outer segment. The nerve cells scattered in small islands show eccentric nuclei with a black, sharply stained nucleolus. Cell bodies are irregular, greatly shrunken, nissl substance diffused, or collected in one corner of the cell body, while the rest is filled with granules of lypochrome pigment. Some cells are pale and swollen. Satellites and neuronophagies are increased in number. Glial nuclei in these islands are numerous among the nerve cells. The small pallidal cells are not visible.

Corpus Luysi. The lesion of corpus luysi comes next in severity. Nerve cells are rarefied, dispersed in small islands, among a dense fibro-glial network. Nerve cells show advanced alterations. Shrinking hyperchromotosis. Increased satellitosis. Many cells are pale and appear as shadows. Their nuclei indistinct; their cell bodies crenated or actually split. Many cells are in a state of lypochrome degeneration filled with yellow granules. Not a single cell remains normal. Vascularization much increased. Capillaries proliferated.

Red Nucleus is small and has sclerotic appearance on account of pronounced secondary gliosis. The number of cells is diminished. The chronic cell changes are obvious. Practically not a single cell is normal. Vascularization is increased. Perivascular gliosis.

Substantia Nigra. This formation exhibits also a picture of an advanced secondary gliosis, especially around the vessels, and profound degenerative cell changes. The substantia nigra on frontal section consists of groups of cells surrounded by clear fields of glial fibriles and nuclei. Some of the cells appear to be normal; most of them in a state of pathologic alteration. Shrinking of cells is a most prominent feature and usually affects the whole group. The nerve cells are small, shrivelled up, many are broken, split. This last feature is met with nowhere else with such frequency as in the substantia nigra. Many cells contain yellow pigment collected in clusters and large fragments included in the vacuole. Many cells have lost their pigment and appear pale. In other cells in a state of advanced cytolosis, the pigment lies free near the fragments of the cell body and the nucleus. Increased cytolosis and neuronophagia. Only a few cells appear normal.

Spielmeyer preparations from basal ganglia and pedunculo-hypothalamic regions show moderate myelin sheet alterations similar to those described in the

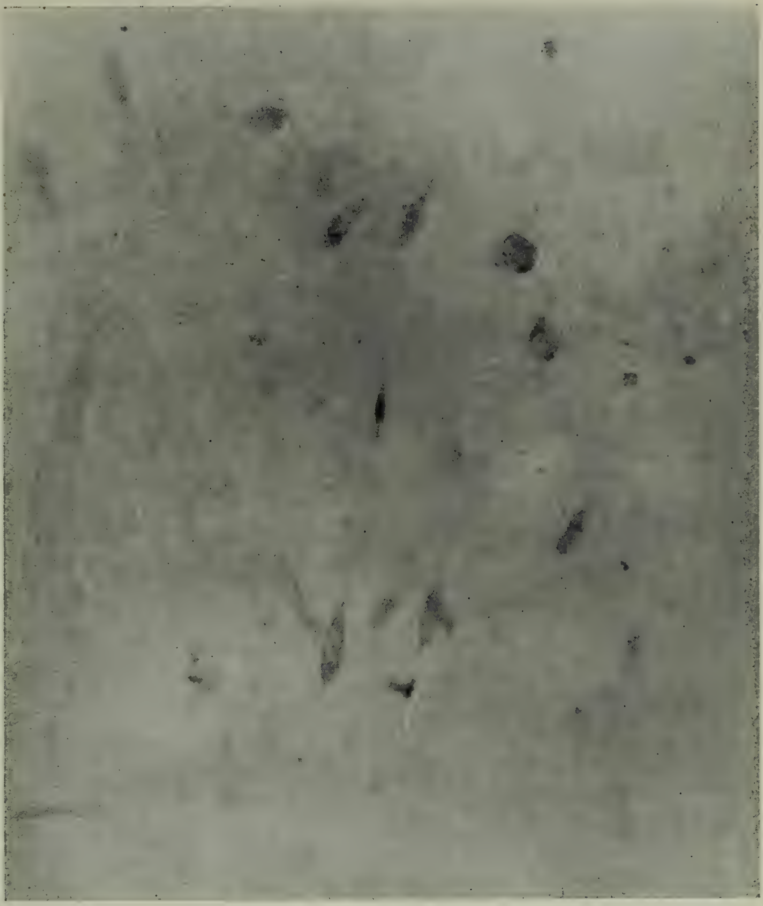

Figure 2. Case II. T. D. Pallidum. Regressive gliosis. Proliferation of glial fibers. Area of nerve cell devastation. The cells are elongated, shrunken; some are swollen.

cortex. Ansa lenticularis does not show obvious demyelisation but appears to be reduced in size. The pedunculo-hypothalamic bouquet formed by fasciculus of Vicq d'Azyr, fasciculus thalamicus, and fasciculus lenticularis, are pale and slender. On small sections not systematically cut in series, it is difficult to form an idea about the nerve fibers and tracts; no definite information is therefore, at hand on this aspect of the pathology in the present case.

Cerebellum and Dentate Nucleus are involved in the same diffuse degenerative and atrophic process as the cortex and the basal ganglia and in the present case they-are involved in a relatively greater degree than the same structures were in the first case. The Purkinje cells are much affected; there are many gaps and long, stretches where no Purkinje cells remain; those that remain are degenerated, swollen, have a diffuse outline, and are pale. In the dentate nucleus the number of cells is reduced; many cells are swollen. Scharlach R. shows that the cells are loaded with fat granules. One Weigert section from the dentate nucleus showed that the nerve fibers composing the hilus are pale.

Spielmeyer preparations from the cerebellum and dentate nucleus show obvious and marked myelin changes, swelling, beading, and disintegration of myelin, especially in the fine fibers running out into the cortex, and in the vicinity of the dentate nucleus.

Pons. The pontine cell groups appear to be in fair condition; a few are degenerated, especially in the fifth nucleus, where the cells are swollen and have eccentric nuclei. In the nucleus reticularis tegmenti many cells appear shrunken with granular protoplasma and broken up fragmented dentrites.

Medulla. One Weigert preparation from medulla shows well developed olives with very pale, discolored fibers, composing its hilus. Weigert preparations from pyramidal crossing does not show obvious fiber tract degeneration.

Comment

In this case, as in the first, three components in the pathologic process affecting the brain can be discriminated:

1. Primary chronic arteriosclerotic changes of blood vessels.
2. Chronic degenerative and atrophic changes in the nervous parenchyma with secondary gliosis as direct reaction to the primary arteriosclerotic process.
3. Acute lesions; acute degenerative nerve cell alterations, acute swelling, ischemic cytolitic, cariolytic and chromotolytic changes, edema.

From the standpoint of predominant localization of each of these three components the last one was most diffuse, affecting practically the whole cerebrum. Perineural and perivascular edema and acute ischemic cell changes can be explained from the clinical evidence of terminal uremia and death in coma.

The chronic sclerotic process of the blood vessels appears to be the primary cerebral lesion in this case. This was shown by both macroscopic and microscopic changes in the vessel walls of the brain and meninges. The primary nature of the vascular sclerotic process in the brain was supported by the clinical observation and by the history of the patient. The arteriosclerotic changes in the brain appeared to be especially prominent in the frontal cortex and in basal ganglia. Macroscopically, one could observe the sclerotic state of basilar vessels. The microscopic study showed a characteristic picture in the third layer of the cortex and in the pallidum, tremendous increase of thickwalled vessels and capillaries, advanced perivascular gliosis, many holes with the vascular ring fallen out or shrunken.

The pathologic process in the brain being primarily vascular, one can say that the chronic, degenerative, and atrophic secondary changes observed in the nervous parenchyma were of a vasculo-trophic nature, as has been described by Spielmeyer (7, 8) in cerebral arteriosclerosis. Disturbances in the blood supply, a state of chronic ischemia, probably plays the principal role in causing the shrinking, atrophy, and eventual breaking down of the nerve cells. This secondary chronic degenerative process which followed the primary vascular arteriosclerotic process showed the same topographic distribution as the latter — the frontal cortex (third layer) and the basal ganglia (pallidum and pedunculo-hypothalamic formations) being the most affected regions of the brain.

The glial reaction further substantiates the contention that the secondary degenerative process in its evolution was one of long duration. Two types of glial reaction could be discriminated:

1. "*Regressive*" gliosis consisting mostly of a dense fibrous overgrowth without increase in number of glial nuclei and indicative of an old lesion (neuroglial sclerosis of the pallidum, marginal gliosis, sub-ependymal gliosis).
2. "*Progressive*" gliosis characterized by proliferation of glial nuclei, many of them showing active division, hyperstainable glial cells and fibriles, glial clusters, indicative of an active glial reaction where the lesion was relatively recent. Topographically, this was a most diffuse feature observed in the cortex, striatum, and cerebellum.

On the whole, the histopathologic feature observed in this case closely resembles one described by Foix and Nicolesco (9) in Parkinson's Disease: Atrophic sclerotic changes in the frontal cortex, progressive and regressive glial reaction, multiple foci of cellular disintegration, increase of lipochrome pigment, dropping out, shrinking, cariolytic and cytolytic changes in the nerve cells of the basal ganglia, especially in pallidum, corpus Luysi, and substantia nigra.

Discussion

These two cases, clinically, seem quite different; however, both show the same essential features: epilepsy and the symptomatologic pattern of neurosomatic deterioration. In the first case — a child — deterioration developed more rapidly and was more destructive, in nine years leading to profound dementia and cerebral flexion paraplegia. In the second case — a man 65 years of age, with late epilepsy — the neurologic picture essentially characteristic of neurosomatic deterioration, developed more slowly, was not so dramatic, and the symptomatologic pattern was one that could be identified with arteriosclerotic Parkinsonism.

Pathologically, in both cases, evidence was found of a primary vascular cerebral lesion which was in the first case an acute inflammatory lesion — meningo-encephalitis; in the second case, on the contrary, a chronic and non-inflammatory lesion — cerebral arteriosclerosis. In both cases the primary vascular lesion was the starting point of a chronic degenerative and atrophic process affecting principally the frontal cortex and basal ganglia. The cortex showed a more widespread lesion in the first case; on the contrary, the pallidum was relatively more degenerated and sclerotic in the second case. In spite of the fact that the clinical picture was distinctly more advanced and severe in the first case than in the second, the corresponding degree of severity of pathologic changes in the respective cases could not be established. One must bear in mind the fact that the lesion in our first case, whatever its nature, and degree of severity, occurred in a critical period of life before puberty and for that reason this lesion was potentially more destructive to the cerebral function. In the first case, the degenerative pathologic process was of an active sub-acute character, showing a predominance of the "progressive" glial reaction, while this process in the second case was more of a chronic, sclerotic type, showing mostly the fibroglial secondary reaction of a "regressive" variety (glial scar).

In both of reported cases in spite of a great diffusion of the cerebral lesions the frontal cortex, pallidum, and pedunculo-hypothalamic formations, — corpus Luysi, substantia nigra, and red nucleus, showed not only more profound alterations but what is particularly important the alterations in these areas of the brain — pallidum especially — were those of a chronic degenerative and atrophic process. This process apparently secondary to the primary cerebral lesion, appears to represent in a plausible fashion the pathologic foundation of the evolution and of the symptomatology of neurosomatic deterioration. Following the prevalent ideas one may refer dementia to the lesions of the cerebral cortex while rigidity to the lesion of the basal ganglia and mid-brain; however, the progressive dementia and rigidity as observed in the course of neurosomatic deterioration of epileptics, in our mind are a sum total of both cortical and sub-cortical pathologic changes. These two essential clinical components of deterioration represent merely two aspects, one psychic, the other motor, of one clinico-pathologic syndrome reflecting probably a progressive degeneration of a complex fronto-pallido-mesencephalic system.

The particular syndrome and the pathology described in our cases are not unfamiliar to those who happen to practice their observation in that clinical field which truly can be called "the dumping ground of neurology."

O. Foerster (10) under the name of "congenital pallidal rigidity", described a number of cases which were characterized by a syndrome consisting of epilepsy since infancy, imbecility or idiocy, and progressive rigidity; as in some of such cases, pyramidal symptoms developed in the further evolution of the condition, he called the whole symptom complex "pyramido-pallidal syndrome". This author's classic paper on the extra-pyramidal disorders of motility (11) opens with a record of such a case. The case history and clinical photographs illustrating it do not leave any doubt as to the identity of the syndrome with that developing in many epileptics in the course of deterioration, regardless of the origin and of the age of onset of epilepsy (1): Generalized rigidity, flexion attitude of head, trunk and extremities, flexion contracture of lower extremities, are shown distinctly in Foerster's illustrations.

Bielschowsky (12) in a clinico-pathologic study, under the name of "progressive rigidity", described the case of a boy who at 6 years of age, following an acute illness, developed chorea; later progressive muscular rigidity set in; the choreic movements, little by little, became extinguished; eventually flexion contractures of the lower extremities developed; the patient became permanently bedridden in a clasp-knife attitude; speech and swallowing became greatly impaired; there was associated epileptic attacks, and profound dementia; patient died at 14 years of age. The pathologic study showed atrophic and degenerative lesions in the brain with advanced secondary gliosis. The third layer of the frontal cortex and the basal ganglia were the most affected; in the latter the most prominent lesions were in the corpus striatum. In the pallidum and pedunculo-hypothalamic formations, corpus Luysi and substantia nigra, the lesions were not so advanced although quite severe and probably of later date. The author attributes the chorea to the lesion in the Striatum and the progressive rigidity which developed later to the later lesion in the pallidum and substantia nigra.

Similar observations of rigidity with dementia and eventual development of flexion contractures in the lower extremities, were reported by Urechia and Nicolesco, Babonneix and Lance, Filimonoff, Onato, (quoted by Goreiso and Marotta) (10). In most of these observations epileptic attacks were recorded. In one of the cases Urechia and Nicolesco dealt with a girl 17 years old who at 2 years of age, following an encephalitis, developed at first chorea, then progressive rigidity, and myoclonic movements; she had epileptic attacks, became mentally deficient and could not talk; pathologically, there were found lesions in the striatum and pallidum, in the corpus Luysi, and substantia innominata (Reichert's), in the nucleus dentatus, and in the nucleus of the vagus.

The authors of the present paper, in a study of myoclonus in epileptics (13) were able to show by a survey of the literature that in most of the cases of myoclonus associated with epilepsy and deterioration, extrapyramidal symptoms were present and the pathologic study of the central nervous system in most of the cases showed lesions in the basal ganglia, the pallidum and substantia nigra often being particularly affected. Lesions of dentate nucleus were found constantly. On the contrary, in cases of myoclonus free from epilepsy, deterioration was not present, the akineto-hypertonic symptom complex was not observed and the lesions in the central nervous system were confined to the cerebellum and dentate nucleus; while the basal ganglia were intact. On the grounds of this study, we have advanced the view that the myoclonic components in the myoclono-epileptic cases is referable to the involvement of dentate system (cerebello or dentato-tropic lesion) while the epileptic component (deterioration) in such cases is reflected mostly in the diencephalo-tropic degenerative lesion of the brain. Thus, it seems that the broad clinical syndrome consisting of a chronic convulsive state with progressive dementia, and progressive rigidity, in most of cases is associated with degenerative process of diffuse distribution in the brain but with particularly profound and elective lesions in the frontal lobes (third cortical layer), basal ganglia (pallidum) and mid-brain (substantia nigra, red nuclei).

To conclude the present paper, we should mention the pathologic alterations in the viscera. In the first case, the liver was distinctly underweight, small and sclerotic, with a thick adherent capsule, proliferation of connective tissue, and degeneratiive changes in the liver cells, with vacuolization. In the second case, the histologic study of the liver was not made but on macroscopic examination it appeared small and sclerotic, gray in color, of hard consistence, finely nodulated, and the capsule was adherent. In connection with these visceral changes it is of interest to mention the observation of Guiraud (14) in a case similar to our first case: A boy, at 2½ years of age, was taken ill with fever and convulsions; following this he showed arrest of mental development; he had frequent epileptic attacks — ten to forty per day; besides epileptic attacks which continued until his death, he developed "Parkinsonian symptoms", fixed facies, flaxion attitude of the body, bilateral muscular rigidity, more pronounced on the right side. Patient died at 17 years of age from pulmonary tuberculosis. Histologic examination of the central nervous system showed slight thickening of the pia, rarefaction of pyramidal cells, and areas of neuroglial sclerosis in the cortex. The putament and nucleus caudatus showed areas of disintegration around the vessels. The cells of globus pallidus were atrophied and many were missing. In the medulla and pons were found foci of intense perivascular reaction with plasmocytes and lymphocytes. The substantia nigra was also the seat of perivascular infiltration but especially of nerve cell lesions which were much more intense than in the other parts of the brain.

The liver was particularly studied. Microscopically it was rather hypertrophied (1500 grams at 17 years of age). Liver was hard and granular in appearance, filled with small parenchymatus nodules scarcely visible to the naked eye and buried in a mass of connective tissue. Histologically, there was found proliferation of connective tissue, cellular cirrhosis; the cells were degenerated and showed a particular cystic transformation of nuclei of some of the hepatic cells.

The author compared his case with a group of cases presenting the pathologic syndrome of hepato-lenticular degeneration and called the condition described by him as "syndrome hepato-encépholique".

We shall refer, also, to the observations of Myerson (15), of Thom, (16), and more recent studies of Patterson and Weingrow (17), on the relation between brain and liver weights in epileptics. These authors demonstrated from a survey of a large number of autopsy records that the liver in epileptics was found in nearly 70% of cases smaller and lighter than in normal weight relations between liver and brain.

These visceral changes, coinciding with the lesions in the central nervous system, are, of course, of fundamental importance and deserve the attention of thoughtful investigators. We believe that the lesions of liver, pancreas, suprarenals, as were found in our first case, were not merely coincidental findings; they can be looked upon as visceral components of the pathology of neurosomatic deterioration.

We wish to emphasize that in the present, as well as in previous publications (1, 13), on the clinical symptoms and pathology of neurosomatic deterioration, we were not concerned with finding out the "etiology" or the "pathogenesis" of epilepsy as such, but with the clinical and pathological aspect of the various disease processes in the central nervous system, of which epilepsy is one of the most constant, and usually one of the earliest manifestations. In other words, it is not "the cause of things" but "the things caused" (H. Jackson) that was the main idea in our observations. It is with this idea in mind that we are reporting the clinico-pathologic study of these two cases.

Being rather limited in our technical means, we could not make as complete and detailed histopathologic study of these two brains as they deserved. The study of glial reactions, the micro-chemical study of various "Abbauprodkte", as well as a systematic study of nerve fibers and tracts, was not made. This is a serious gap which we fully realize; however, the few methods used, especially Nissl and Van Gieson preparations, gave us a fairly representative, general picture of the nature and distribution of the pathological changes and justify the reporting of the results of our observations.

SUMMARY

Two cases have been reported, one of epilepsy following encephalitis in early

childhood, the other of late epilepsy with cerebral arteriosclerosis and cardio-renal disease. Both cases presented the characteristic clinical picture of progressive neurosomatic deterioration. The first was a case of an advanced stage of deterioration with generalized muscular rigidity predominating in lower extremities, clasp-knife attitude of the body (cerebral flexion paraplegia), pseudo-bulbar symptoms, and profound dementia. In the second case the dementia was less pronounced and the neurologic condition was identical with the akineto-hypertonic syndrome of arteriosclerostic Parkinsonism. The pathologic study of the central nervous system in both cases showed a diffuse involvement of the brain by acute and chronic degenerative changes. The chronic changes in the first case were attributed to the vascular inflammatory lesion (encephalitis) while in the second to arteriosclerosis. In both cases the chronic degenerative and atrophic lesions affected especially the frontal cortex (third layer), basal ganglia (pallidum) and pedunculo-hypothalmic formations (corpus Luysi, substantia nigra, red nucleus). These chronic degenerative changes, secondary to primary cerebral lesion (vascular) were considered as representing in particular the pathology of neurosomatic deterioration in the reported two cases. It was suggested that the degeneration of the complex fronto-pallido-mesencephalic system of the brain clinically is expressed by a progressive psycho-motor syndrome consisting of a chronic convulsive state, dementia and rigidity, eventually leading to a cerebral flexion paraplegia (flexion contractures clasp-knife attitude, pseudo-bulbar symptoms).

The chronic changes in the visceral organs, especially in the liver, may be considered as the visceral component of the pathology of neurosomatic deterioration.

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A STUDY OF HABIT CLINIC CHILDREN HAVING CONVULSIONS.

by Crystal L. McCollister *

Outline

I. Introduction —
    1. Definition. 2. Historical resume. 3. Sources of error in data on convulsions. 4. Purpose of this study.
II. Investigation —
    1. Data. 2. Theoretic material. 3. Statistics and tables.
III. Special Study of 21 cases —
    1. Description. 2. Etiological factors. 3. The social psychiatric aspects of problems.
IV. Conclusions —
    1. Direct. 2. Problematic.

Not only the medical men but laymen have always been keenly interested in the subject of convulsions. "Epilepsy, or the sudden loss of consciousness accompanied by convulsions, had always baffled the observer. That primitive man is intensely interested in the disease is evidenced by numerous and detailed hypotheses of etiology and by still more numerous therapeutic measures. . . . Epilepsy among primitive people is thought to be due to the possession of demons, animal spirits, escape of soul from the body and heredity. Civilized races hold that the disease is due to demoniacal possession, the influence of the moon, emotional excitement and lesions of the brain."[15] Anyone who has seen a child suddenly stop play and develop the symptoms of a convulsion, will see how naturally demoniacal possession came to be the accepted theory of these symptoms, and the exorcism or expulsion of these demons the ordinary method of treatment. Thus, from ancient times the child or adult having convulsions has been considered a peculiar type of individual.

The term convulsive disorders was used advisedly throughout this discussion to comprehend the different kinds and degrees of convulsions, thus not classifying the cases as to epileptic and non-epileptic. Dr. Morse says, " . . . it is safe to say that, as a rule, in childhood, there is nothing about any single convulsion to show whether it is epileptic or not.[18]

A definition of epilepsy or of the broader term convulsive disorders is difficult. The word epilepsy literally means to seize upon, or to attack. The root meaning of this word, however, conveys very little idea of the condition, but it has come to have the applied meaning which seems to be all that is necessary. "If a person has a fit of any degree, mild or severe, frequent or infrequent, and this fit is repeated even a few times at intervals, we say that the person is epileptic; but it ought to be understood that epilepsy is not a disease. It is a symptom, or a collection of symptoms, of quite a variety of conditions."[8]. Gowers says, "Epilepsy is a disease in which there are convulsions of a certain type or sudden loss or impairment of consciousness, but in which the convulsions are not directly due to active organic brain disease, to reflex irritation, or to abnormal blood states, and in which isolated loss of consciousness is not the result of primary failure of the heart's action."[12] Dr. Morse says, ". . . it must be remembered that a convulsion is merely a symptom, not a disease."[18]. The psychopathologists regard epilepsy as an expression of behavior in an individual with a definite mental makeup. These individuals present distinctive defects in the personality expressed in their egocentricity, supersensitiveness and emotional poverty. The seizure phenomenon they regard as a manifestation of the inability of these individuals to subordinate

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* Under the direction of Dr. Douglas A. Thom.

their own individualistic tendencies to the social demands; the loss of consciousness as representative of their withdrawl from reality. The "fit is a libidinous outlet for the infantile unconscious".

It will be evident to even the casual observer that while there are some points of agreement, yet there are also certain wide differences in the above statements, all by eminent authorities on the subject of convulsive disorders.

There are also many and varied points of view in regard to the seriousness of convulsions occurring in childhood. It is still said by some general practitioners that "a convulsion" in a child means the same thing as a "chill" in the adult, and should be considered of no more consequence. Today, however, this statement is contested by many who believe that convulsions occurring in childhood are often of great importance, and should therefore always be regarded as serious until proven otherwise.

"There are no criteria by which one can state definitely at the inception of convulsions in an infant, whether he has epilepsy at the time, or will develop epilepsy (idiopathic) in adult life. Any case in which convulsions develop from any cause, in infancy, must always be considered a candidate for epilepsy in adult life."[24] Dr. Morse says, "It is common knowledge that convulsions occur more frequently in infancy than at any other period of life, that the frequency of their occurrence diminishes steadily during early childhood, and that they are relatively uncommon after seven years. Infancy is evidently, therefore, in itself, one of the predisposing causes of convulsions."[18] "According to Holt all young children, but especially infants, are extremely prone to convulsive disorders — though in infancy epilepsy is the least probable diagnosis. Rohmer sees a physiological predisposition to convulsions in infants, and he states that 90 per cent of the cases are due to spasmophilia. Gowers states that one-eighth of all cases of epilepsy commence during the first three years of life. Vivaldo calls attention to the frequent history of convulsions in infancy in cases of epilepsy developing at puberty or later and he is convinced that in many cases convulsions have been traced to inherited syphilis, and he believes that prompt treatment of this disease might have averted the epilepsy many years later. Still says that of the enormous number of infants who have convulsions, an extremely small proportion become epileptic. Yet in cases of epilepsy in later life, in 12 per cent (Gowers) to 40 per cent (Osler) there were convulsions during the first three years of life. Convulsions usually cease after the fourth year, even if they have persisted for two years."[24] Patrick and Levy conclude from their studies that, "Convulsions in infancy and childhood not epileptic, spasmophilic or symptomatic of a gross brain lesion, are evidence in themselves of the individual's increased chance of later epilepsy. There is no definite 'interval of safety' beyond which epilepsy will not occur."[21] Dr. Withers says, "One convulsion may change the entire future of the child causing spastic paralysis or idiocy or both. Serious in the new born and in advanced childhood, when unduly prolonged or recurrent and with marked prostration, weak pulse, stupor, or cyanosis. . . Tobler points out the permanent injuries that are liable to become manifest later in life when children have convulsions early. He says that only one-third of the spasmophilias grow up normally, another third are mentally backward and the rest show signs of a substandard nervous system."[36] Dr. Epstein has stated, "In many cases of convulsions in children there is a history of convulsions in the other children of the same family and the parents show evidence of neuropathy or neuropsychopathy, thus pointing to a familiar hereditary abnormality of the neuromuscular or neuropsychic system. The convulsions as a rule sooner or later stop but the damage to the nervous system is done. Some spasmophilic children undoubtedly remain in a state of submentality either because of the underlying nervous abnormality or as a result of the convulsive attacks."[7]

There seem to be many points of difference in the above statements but it is very evident that at the present time the convulsive disorders of childhood are being brought to the attention not only of the medical men but of the social workers. A number of intensive studies of this subject are being made at the present time and more could be made if social histories contained definite data in regard to the convulsive disorders of children. When making investigations social workers are being instructed to ask whether or not a patient has had convulsions and if so to give a definite description of these in the case history.

In collecting data for this study history after history was found in which there was no mention of convulsions. Certainly it is much more satisfactory to the physician studying the case and also for research purposes to find such statements as, "No convulsions during infancy" or "onset of convulsion dates from seven months, etc." than to have no mention made of convulsions.

It is agreed that a history of convulsions is often difficult to obtain not only because of the usual obstacles in making social investigations but because of other considerations which must be thought of in this connection. There are a number of possible reasons for this, one of the more evident being the fact that many mothers do not consider a convulsion in children as of any consequence — many believing that all children have convulsions and not realizing that often there are dire results from these. Consequently, when their children have convulsions or "worm fits", "teething fits", "stomach fits", or "spells", as they are often called by the lay person, they do not become emotionally upset about these but start remedial measures at once — such as putting the child in hot mustard water, etc. and not making any attempt to secure the advice of a physician. It is surprising to find the number of mothers who know what to do when a child has a convulsion. This might be given as more evidence as to the frequency of convulsions among children. Thus, when the above mentioned type of mother is given her child's history she will undoubtedly not mention the fact that her child had a convulsion as she will consider it of such little consequence or when questioned about this will have forgotten just when the convulsion occurred and the attendant circumstances. It might be well to state at this time that the more intelligent the parent and the younger the patient the more likely is a history of infantile convulsions to be elicited. Then, too, the older the patient when his history is first obtained the less likely is the parent to remember whether or not early convulsions occurred.

Another type of mother from whom it is almost impossible to secure definite information in regard to this subject is the one who becomes emotionally upset when a convulsion occurs in her child, not noticing or remembering exactly what happened.

There is, also, the mother who has been told that because her child has had a convulsion he will become insane or feebleminded, or she is told some other fanciful tale in regard to this, thus being ashamed or not daring to mention the fact that her child did have a convulsion. She is probably the type of mother who would never volunteer information regarding convulsions in her child but would have to be specifically questioned about these.

The various symptoms and accompanying circumstances of convulsions are most important for a physician in making a diagnosis and also for research purposes. Besides the usual data found in a history it is necessary to include such specific material as: what was apparent exciting cause given for the convulsion; when did it occur — in the day or night time; duration; was child conscious or unconscious; was there defecation or micturition; biting of tongue; frothing at the mouth; description as to convulsive movements as to whether or not there were clonic or tonic spasms; and something as to the state after the convulsion. It is also important to obtain definite data in regard to the other attacks and to find out how often attacks occur; whether or not they are periodic; and how long patient has been without a convulsion. Material should be checked up whenever possible as there are many sources of error in obtaining this kind of definite information. It often seems that the only possible way to obtain this material is by questioning the informant. Here again one treads on dangerous grounds as the questions are apt to be leading ones, — suggestive of answers highly untrustworthy.

It is with a view toward bettering the knowledge of the social worker in regard to the convulsive disorders of childhood that this thesis was undertaken.

One of the chief interests in convulsions and other convulsive manifestations in early life is whether or not they are symptoms of epilepsy or whether, if not, they may lead to epilepsy later. It is a well known fact that an epileptic has to make a very difficult adjustment, for often he has a life-long malady, rendering him a burden to himself, his family, and society at large.

Gareiso states that in 30 per cent of the epileptics he has encountered in hospital practice there was a history of convulsions in early childhood.[10] In 12 per cent (Gowers) to 40 per cent (Osler) there were convulsions during the first three years of life.[24] According to these percentages one must take into consideration the fact that a fairly large proportion of the children who have convulsions are destined to develop epilepsy in later life unless possibly some preventive measures are adopted. Dr. Tracy says: "The brain in the beginning is but slightly or not at all touched, but as the disease progresses into dementia the brain degeneration becomes marked. The hopelessness of curing advanced epilepsy with the brain damaged as in dementia, is based on this involvement. . . For when the disease is allowed to progress we have not alone diseased sympathic fibres, but a secondary hyperirritability of cortical cells (hence the convulsions) and in place of contending with the stream at its beginning, we are confronted with a torrent of pathologic nerve energy that to science is as yet unmastered."[35] Dr. Morse says, "In those instances in which children have convulsions from time to time and in which the diagnosis of epilepsy is not warranted, little can be done, except to look after the general health of the child, regulate its diet carefully, be sure that its bowels are kept open and that it drinks plenty of water and remove, as far as possible, all causes of reflex irritation. Little more can be done, if the convulsions are certainly or possibly epileptic. . . Repeated convulsions, reflex in origin, may apparently in time develop a 'bad habit of the brain', and lead to epilepsy. The prognosis for recovery in epilepsy in childhood is better than in later life; as to mental impairment worse."[18] Thus, the social worker has great responsibility in getting these children examined by a physician as soon as possible after the first convulsion.

The information for this thesis was obtained from the case records of the Habit Clinics held under the auspices of the Women's Municipal League of Boston and of the Habit Clinics for Children, conducted by the Division of Mental Hygiene of the Massachusetts State Department of Mental Diseases. The same psychiatrists and psychologists serve on both staffs and record forms are similar, so that the material secured is uniform. Out of 1,600 children referred to the Habit Clinics 124 had convulsions prior to the fourth year, not associated with any acute or chronic cerebral condition, such as encephalitic or meningitic processes. Most of the children were referred to the clinic by visiting nurses or social workers, although some of them were referred by teachers and in a few cases by their parents. A study of the 124 records was made and in some cases the psychiatrist and social worker knowing the child was consulted, and in other cases especially of the group studied intensively, parents and school teachers were also interviewed.

There has long been much diversity of opinion as to the inheritance of the convulsive disorders. Dr. Morse says, "Heredity undoubtedly plays a part in the etiology of convulsions in early life. There is no doubt that the children of neurotic parents and belonging to neurotic families are more prone to have convulsions than those coming from better stock. All the diseases and conditions that affect the general nutrition likwise predispose to convulsions, because the brain shares in the general malnutrition, and, as is well known, poorly nourished nerve tissue is unduly irritable. These facts while of considerable interest, are, however, not of great importance practically, because all human beings must start as infants and because at present we, as physicians, have very little control over heredity."[18]. A general survey of the heredity of these cases was undertaken but it was impossible to compute any statistics from this because of the lack of material and the unreliability of some of the data. One wonders, however, whether or not heredity played a part in the etiology of the convulsions in the following illustrative cases.

CASE I.

John G., aged five years, began convulsions at sixteen months — the exciting cause given as worms (reflex irritation). The second attack occurred at eighteen months and was associated with worms. At this time he had a series of five or six convulsions in succession. When he was two years old he had a convulsion associated with constipation. The next attack occurred at two and one-half years of age when he had a fever and was developing a case of measles. This convulsion was more severe than any that he had had — lasting for fifteen minutes. The last attack occurred at the age of three years and was associated with constipation. He had a temperature of 103 degrees at this time. In the family history of this patient we find a second cousin on the paternal side had epileptic convulsions until twenty years old. The father and mother both had convulsions as babies and now are considered to be "neurotic".

CASE II.

Dorothy S., began convulsions at one year of age associated with whooping cough. She has had three convulsions since then. Gastro-intestinal upsets, teething, and temperature have all acted as exciting factors. She comes from a family stock that seems to be predisposed to convulsive disorders. The mother, maternal uncle and aunt besides two siblings of patient had convulsions in infancy.

CASE III.

Robert B. had his first convulsion at nine months associated with pneumonia· No cause could be ascertained for the second attack. He had a third convulsion associated with pneumonia. In this family both the paternal and maternal cousin, paternal uncle, and two maternal aunts have had convulsions. Since mother was pregnant she has had attacks in which her hands grew numb, she would faint and remain unconscious for twenty to twenty-five minutes. She had many of these during pregnancy — usually more than once a month. Since patient's birth she has had these "fainting spells" after each menstrual period — sometimes they come suddenly and she falls from a chair or falls in the street; other times they come on gradually and she has a warning. It was said that formerly she had very bad tempers and was easily irritated.

CASE IV.

Frank R. had his first convulsion at two months, for which no exciting cause was given. Since then he has had a number of attacks, sometimes as many as four or five a day — whenever he is crossed. The mother, maternal uncle, and sibling had the same kind of attacks when crossed until about three years of age.

CASE V.

Bernice K. has had just one convulsion. This occurred at eighteen months when a neighbor grabbed a ball away from her. The family history is essentially negative except for the fact that the mother had convulsions whenever she was crossed until she was seven years old.

Undoubtedly we can apply what Burr says regarding the heredity of epilepsy to this general group of convulsive disorders. Burr's statistics do not show that direct inheritance is important in epilepsy, since only thirty-four parents out of 1,449 cases were known to be affected. On the other hand, the frequency of insanity, crime, chorea, alcoholism, and epilepsy in relatives points toward congenital instability resulting from abnormality in the germ cell or sperm cell. Considering all the data, it is safe to assume, Burr says, that the effect of heredity is rarely direct; that usually it is indirect and general, not specific. In other words, a predisposition to nervous or mental diseases is inherited; the resulting specific disease depends on external causes — it is environmental in the broadest meaning of the word.

In this study it was necessary to distinguish as clearly as possible between predisposing and exciting causes of the convulsions of children — the predisposing causes including any factors which make the individual susceptible to a convulsion; in other words they prepare the soil. In thinking of the predisposing causes we must consider the health of the parents together with their social and economic pathology. At birth, it is generally believed, every child brings with it its own peculiar structural and functional characteristics. Some go through life from infancy to old age with little or no illness, while others seem to be especially susceptible or predisposed to such conditions as convulsions. Dr. Epstein believes that one of the most important inherited abnormalities of childhood is the convulsive or spasmophilic diathesis.[7] Thus, we find "in the predisposition to convulsions, some pitch over the brink easily, some resist strenuously."[9] That predisposing causes alone are not sufficient to produce a history of convulsions in an individual may be seen from the fact that they function in thousands of individuals who do not have convulsions; for all individuals have certain hereditary weaknesses. It is generally believed that predisposing causes operate when a convulsion occurs, but they do so in connection with other elements, or in such combination that the individual is unable to withstand their strain. It seems that one single factor is rarely responsible for the convulsion; it takes a certain combination and accumulation before the 'child goes under'. Gastro-intestinal upsets, teething, and infectious disorders are only a few of the shoals upon which the predisposed may be wrecked.

The last, or the exciting cause is the pulling of the trigger which sets off the charge that is all ready to be fired. The exciting causes were grouped according to Dr. Thom's classification and with his help in the following way into the "reflex group", which included cases who had their first convulsion associated with teething or worms and one case who had convulsions while under ether; the 'acute infection' group; the group of 'gastro-intestinal upsets' which included cases who had their first convulsions associated with dietary indiscretions, stomach upsets, or constipation; the 'trauma' group; the 'emotional' group which included cases who had convulsions associated with an emotional upset, when child was crossed, punished, or frightened; and the 'unknown group' included those cases in which the exciting cause was not ascertained.

As stated previously this thesis is based on a study of 124 children who had convulsions prior to the fourth year of age, not associated with any gross brain lesion.

The general statistical facts obtained from this study may be summed up in the following points:

1. These 124 children represented 120 families.
2. Thirty-six (29%) of the cases are below 5 years of age; 74 (59%) are from 5 to 10 years of age; and 14 (12%) from 10 to 15 years of age.
3. About 33% of the cases are of Italian extraction and come from typical congested Italian neighborhoods. About 25% of the cases are of Russian Jewish extraction and come from Jewish communities.
4. The majority of the ages of the fathers and mothers ranged from 20 to 35 years, 41 (33%) of the fathers and 60 (48%) of the mothers. There were 16 (12%) of the fathers and 3 (2%) of the mothers over 40 years of age.
5. Eighty-four (69%) of the pregnancies were considered normal; 8 (7%) were unknown; and 32 (25%) were questionable, such as mother very nervous during pregnancy; father alcoholic; at 7 months mother had an attack of gall stones; mother received shock — saw an accident; mother had fainting spells; etc.
6. One hundred and fifteen (92%) of the cases were full term pregnances; 4 (3%) unknown; and 5 (4%) premature births.
7. Ninety-four (74%) of the cases were normal deliveries; 25 (20%) instrumental; and 5 (4%) unknown.
8. Sixty-two (50%) of the cases were breast fed; 15 (12%) bottled fed; 11 (9%) both breast and bottle fed; and 36 (29%) unknown. In this connection it might be well to quote Still who says, "Taking haphazard from my notes 30 cases of convulsions in infants under 9 months of age, I find that 20 were entirely hand-fed at the time of the convulsion, only 8 were entirely breast fed."[29]
9. In 91 (73%) cases dentition occurred at a normal age. In 15 (12%) cases dentition was retarded. In 18 (15%) cases the age of dentition was unknown.
10. In 93 (75%) cases talking occurred at a normal age. In 21 (17%) cases talking was retarded. In 10 (8%) cases the age of talking was unknown.

11. In 92 (74%) cases walking occurred at a normal age. In 23 (19%) cases walking was retarded. In 9 (7%) cases the age of walking was unknown.

TABLE I. *Distribution According to Sex and Exciting Cause of 124 Children Having Convulsions Prior to the 4th Year of Age*

EXCITING CAUSES	Males	Females	Total
Reflex-irritation	14	5	19
Acute Infection	22	10	32
Gastro-Intestinal upsets	14	15	29
Trauma	4	2	6
Emotional	10	3	13
Unknown	17	8	25
Total	81	43	124

Whooping Cough	7	Fever	2
Pneumonia	6	Abscess	2
Measles	5	Bronchitis	1
Influenza	4	Head Cold	1
Pyelitis	2	Mumps	1
		Cholera Infantum	1

Table I groups the cases according to the exciting causes and classifies them as to males and females. It will be noted that out of 124 cases 32 (25%) had their first convulsion associated with acute infection. Of this number 7 (22%) had a convulsion associated with whooping cough. In the special study of the cases whose first convulsion was associated with whooping cough the age of onset was somewhat greater than the majority of children who have convulsions. This is probably due to the fact that they were not exposed to whooping cough earlier. In this group of 7 cases, 1 was mentally deficient, 3 were retarded, and the mental status of 3 was unknown. Dr. Thom is particularly impressed with the high incidence of convulsions associated with whooping cough and of the poor prognosis in many of these cases. With the small number of cases of whooping cough in this study it is impossible to draw any conclusions. Dr. Morse says, "Convulsions not due to epilepsy may produce changes in the brain which later lead to epilepsy. This is certainly true of the convulsions which occur in whooping cough."[18] Pneumonia, measles, and influenza were predominant exciting factors in the 'acute infection' group.

It is also interesting to note that 13 (10%) of the cases had convulsions associated with an emotional cause. Only 6 (4%) had convulsions associated with trauma. Twenty-five (19%) of the cases were classified in the group in which the exciting cause was unknown. One of the outstanding reasons for this might be the fact that there were probably more epileptics in this group than in any of the others. Nineteen (15%) of the cases had convulsions associated with reflex irritation and 29 (23%) with gastro-intestinal upsets.

Another significant factor in this table is the predominance of males — in all the groups except the one in which the convulsions were associated with gastro-intestinal upsets, the proportion of males to females is at least 2 to 1, in the emotional group it is 3 to 1. In the group in which the convulsions were associated with gastro-intestinal upsets the distribution of males and females is about the same.

TABLE II. *Distribution in Per Cent According to Intellectual Status and Exciting Cause, of the Children in Table I, Who Have Been Tested.*

EXCITING CAUSES	Mentally Deficient	Retarded	Normal	Above Normal
Reflex-irritation	2	2	8	3
Acute infection	3	12	7	3
Gastro-intestinal upsets	7	5	8	4
Trauma	–	–	2	2
Emotional	1	2	8	2
Unknown	9	1	5	4
Total	22	22	38	18

Table II takes up the intellectual status of the children who have been tested. The following scale for the measurement of the intellectual status was used:

Cases with intelligence quotients:

below 70	mentally deficient
70– 85	retarded
86–100	normal
over 100	above normal

Before proceeding, it is necessary to state that the intelligence quotients of these cases were not taken as exact representations of intellectual capacity but the various clinical findings also were taken into consideration. The grouping of these cases into those who were mentally deficient, retarded, etc. is somewhat arbitrary to be sure and must not be interpreted too literally. It is generally believed that mental ability does not define itself so sharply but in this statistical study these exact classifications do serve a purpose however, for the sake of clear-cut analysis.

Twenty-two per cent of these cases are mentally deficient; 22% retarded; 38% normal; and 18% above normal. Thus 44% of the cases are either mentally deficient or retarded. It would seem that for no other reason but this more should be done in the way of study and treatment of these cases. It will be noted that in cases in which the convulsions were associated with acute infections 15% of the children were mentally defective or retarded; 12% in the gastro-intestinal; and then as one would naturally suppose, the unknown group has a rather large percentage (10%), as we find that in this group there is undoubtedly many epileptics. It is somewhat significant that we have no cases of retardation or mental defect among the traumatic group. This is a small group, to be sure, but it is rather logical to assume that any child may have a convulsion from trauma and concussion which is not severe enough to cause injury to the brain cells and is not necessarily a criterion of the stability or instability of the nervous system.

In the reflex group 4% and in the emotional group 3% of the cases were mentally deficient or retarded. Tobler points out the permanent injuries that are liable to become manifest later in life when children have convulsions early. He says that only one-third of the spasmophilics grow up normally, another third are mentally backward, and the rest show signs of a substandard nervous system.[36]

TABLE III. *Distribution in Per Cent, According to Intellectual Status and Exciting Cause, of the Children in Table I. over 5 Years of Age Who Have Been Tested*

EXCITING CAUSES	Mentally Deficient	Retarded	Normal	Above Normal
Reflex-irritation	3	3	8	3
Acute infection	3	13	3	3
Gastro-intestinal upsets	8	8	6	6
Trauma	–	–	2	3
Emotional	1	1	6	4
Unknown	6	1	3	6
Total	21	26	28	25

Table III is similar to Table II but is a further division of the cases and only includes the cases over five years of age who have been tested.

Of these cases, 47 per cent are either retarded or mentally deficient and 53 per cent normal or above normal. These figures closely resemble those found in Table II.

Table IV. *Distribution According to Exciting Cause and Age in Months of Onset of First Convulsion of 124 Children Having Convulsions Prior to the 4th Year of Age.*

Exciting Causes	0–2 mos.	2–6 mos.	6–12 mos.	12–18 mos.	18–24 mos.	24–30 mos.	30–36 mos.	36–42 mos.	42–48 mos.	Un-known
Reflex-irritation	–	–	10	7	1	1	–	–	–	–
Acute infection	2	3	5	6	3	7	2	4	–	–
Gastro-intestinal upsets	2	2	5	4	3	7	2	3	1	–
Trauma	–	–	2	1	–	1	1	–	1	–
Emotional	–	2	4	2	2	1	–	1	–	1
Unknown	5	5	3	3	3	2	1	1	–	2
Total	9	12	29	23	12	19	6	9	2	3

In Table IV we find a very large number (104) of cases who have convulsions prior to 30 months of age — and the greatest concentration point between 6 and 18 months. Dr. Morse states in a discussion on the predisposing causes of the convulsive disorders of childhood, "There are several possible explanations for this predisposition. One is the rapid growth of the brain, especially during the first year, as it is well known that a rapidly growing tissue or organ is especially vulnerable and irritable. Another is the imperfectly developed condition of the higher cerebral centers, inhibitory in action, which are thus less able than later to restrain the "discharges" from lower centers. This explanation has been criticized by certain authors on the ground that convulsions are more common in the second than in the first six months of life; they claim that this could not be so if undeveloped inhibitory centers were the cause, because the cerebral centers are least developed at birth and develop progressively after birth. They attribute the frequency of convulsions in infancy to spasmophilia, and say that they occur more frequently in the second six months, because spasmophilia is more common at this time. An answer to their criticism is that the irritability of both motor and sensory nerves is very slight in the new-born, that it develops much more rapidly than do the inhibitory centers, and that it is greater during the second half of the first year than at any other period of life."[18]

Table V. *Distribution According to Exciting Cause and the number of Convulsions of 124 Children having Convulsions Prior to the 4th Year of Age.*

Exciting Causes	Number of Convulsions			
	One only	Two only	Three or More	Number Unknown
Reflex-irritation	5	3	11	–
Acute Infection	11	5	15	1
Gastro-intestinal upsets	14	4	11	–
Trauma	4	–	2	–
Emotional	2	–	11	–
Unknown	6	–	16	3
Total	42	12	66	4

Especially striking is the fact that this group of children either had single or multiple convulsion, very few having only two. There were 42 cases having a single convulsion and 66 having three or more. In the 'trauma group' 4 had a single convulsion and 2 had three or more — while in the 'unknown group' 6 had one convulsion and 16 had three or more. In the group in which gastro-intestinal upsets was the exciting cause 14 had a single convulsion and 11 had three or more; in the acute infection group, 11 had a single convulsion and 15 had three or more; in the reflex-irritation group, 5 had a single convulsion and 11 had three or more. It is especially significant that in the emotional group only 2 had one convulsion while 11 had three or more. One of the two cases having only one convulsion in the emotional group was that of the girl who had an attack when a neighbor grabbed a ball away from her. The other case was that of a boy who had a convulsion following fright during a severe thunder storm.

TABLE VI. *Distribution, According to the Exciting Cause and Length of Time Without Convulsions of the Children in Table I over Five Years of Age.*

EXCITING CAUSES	CONVULSIONS				
	Having at Present	Without for 1–2 years	Without for 2–3 years	Without for over 3 years	Unknown
Reflex-irritation	2	1	2	9	–
Acute Infection	1	1	3	15	2
Gastro-intestional upsets	4	2	1	16	1
Trauma	–	–	1	3	1
Emotional	3	–	1	3	1
Unknown	5	–	1	5	4
Total	15	4	9	51	9

Table VI shows the length of time the 88 cases over five years of age have been without convulsions. In the group who are having convulsions at the present time were included those cases who have had convulsions within the past year.

It will be noted that 5 (33%) of the cases falling in the unknown group are still having convulsions — again the reason for this might be the fact that there possibly are more epileptics in this group than in the others. We also have three cases in the emotional group who are still using this mechanism as a means to a desired end. Only 15 (17%) of these cases are still having convulsions at the present time while 51 (57%) of them have not had convulsions for over three years. These statistics are in accordance with the conclusions drawn by Robie. He says, "Convulsions usually cease after the fourth year, even if they have persisted for two years."[24]

TABLE VII. *Distribution According to the Age of Onset. Mental Status and the Continuance of Convulsions, of 88 Children over Five Years of Age Having Convulsions Prior to the 4th Year of Age.*

AGE OF ONSET	MENTAL STATUS			CONTINUANCE OF CONVULSIONS	
	Mentally Deficient	Retarded	Unknown	To Present Time	Unknown
Birth–2 months	1	2	1	–	–
2– 6 months	3	–	4	2	2
6–12 months	3	5	7	3	1
12–18 months	2	4	2	1	–
18–24 months	2	–	1	1	1
24–30 months	–	3	5	2	3
30–36 months	–	–	3	–	1
36–42 months	3	2	–	2	–
42–48 months	–	1	–	1	–
Unknown	–	–	–	–	1
	14	17	23	12	9

In Table VII is taken up the age of onset of the 88 cases over five years of age and its relation (if any) to the mental status and to the continuance of convulsions. In Table IV we found that the largest number of cases have convulsions between the ages of six and eighteen months, therefore one does not know from this table whether or not it is particularly significant that the majority of the cases of mental deficiency and retardation appear to fall between those ages and that the majority of cases whose convulsions are continuous begin at the ages between six and eighteen months.

TABLE VIII. *Distribution, According to Age of Onset and Number of Convulsions of 18 Children Having Convulsions Prior to the 4th Year of Age, with a Mental Status above Normal.*

AGE OF ONSET	NUMBER OF CONVULSIONS			
	One	Two	Three or More	Unknown
Birth–2 months	–	–	1	–
2– 6 months	–	–	–	–
6–12 months	–	2	1	–
12–18 months	1	–	3	–
18–24 months	2	–	2	–
24–30 months	1	1	–	–
30–36 months	1	–	–	–
36–42 months	1	–	–	–
42–48 months	1	–	–	–
Unknown	–	–	–	1
Total	7	3	7	1

TABLE IX. *Distribution, According to Age of Onset and Continuance of Convulsions, of 18 Children Having Convulsions Prior to the 4th Year of Age. With a Mental Status above Normal.*

AGE OF ONSET	CONTINUANCE OF CONVULSIONS				
	At Present Time	Without for 1–2 years	Without for 2–3 years	Without over 3 years	Unknown
Birth–2 months	–	–	–	1	–
2– 6 months	–	–	–	–	–
6–12 months	–	–	–	3	–
12–18 months	2	–	–	2	–
18–24 months	–	–	1	2	1
24–30 months	–	1	–	1	–
30–36 months	–	–	–	1	–
36–42 months	–	–	1	–	–
42–48 months	–	–	–	1	–
Unknown	–	–	–	–	1
Total	2	1	2	11	2

In Tables VIII and IX, in the study of 18 cases with intelligence quotients over 100 we find that 10 of them had their first convulsion between the ages of twelve and thirty months, which is significant because of the fact that this is a later age for the onset of convulsions than in the majority of the convulsive cases in infancy. Also, 7 of the cases had a single convulsion; 3 had two only; and 7 had three or more. Just one case had convulsions to the present time while 11 have not had any for over three years.

Could one conclude from these few statistics that the earlier a convulsion begins, the more likely that a child's mental capacity will be affected; and the fewer convulsions a child has, the better chance he has of developing his mental capacity to its fullest extent? Dr. Morse says, "The younger and more feeble the individual . . . the greater is the danger . . . Moreover, the cerebral congestion may be so great in any convulsion that it may result in a hemorrhage, which will later cause feeble-mindedness, epilepsy, or spastic paralysis."[18]

A more intensive study was made of the thirteen children who had spells, resembling convulsions, when crossed, punished, or frightened. With this group were included eight cases who had convulsions due to some emotional cause but whose first convulsions were due to physiological reasons. In this group of twenty-one children representing twenty-one families, it is interesting to note that there were seventeen males and four females. No reason can be given for the predominance of males and it is impossible to draw any conclusions concerning this because of the small number of cases studied. As will be seen from the following description these attacks differ in many respects from a true convulsive seizure.

"Attacks . . . are met with in which respiration entirely ceases for a time; there are temporarily no attempts at inspiration. It has been assumed by some writers that the diaphragm participates in the spasm. Attacks with temporary arrest of, and with no apparent attempts at respiration are seen most frequently in the latter part of the first and during the second year, but beginning in infancy they may occur from time to time until the age of four or five years. They affect children of an extremely nervous type. Several attacks may occur in a single day, or they may occur at intervals of several days or weeks. In susceptible children almost any form of excitment may precipitate one. They are often known as "holding-breath" spells. In older children by far the most frequent exciting causes are temper and fright. If anything is attempted to which the child strongly objects, *e.g.*, a cold bath, inspection of the throat, or taking away a toy, an attack may ensue. The child's face becomes flushed, then livid; there is general rigidity of the trunk and extremities, but very merely clonic spasms. This rigidity is usually followed by complete relaxation with loss of consciousness. The entire attack usually lasts about half a minute. There may be a crowing sound as the child catches his breath or there may be none. After a few minutes of quiet the child gets up and in a short time is apparently as well as ever. Many of those who are subject to attacks of this sort sooner or later have one or more general convulsions, but in some only the mild attacks are seen though they may occur at intervals for years."[14]

Dr. Still believes these attacks to be of great importance. He says, " . . . I shall mention an occurrance which I think is not sufficiently generally recognized namely, that a child may literally 'cry himself into a fit'.

"I have several times had children brought to me because when they cried they became 'very black in the face', and the parents were terrified lest any harm would come of it. Now any one who is not familiar with such cases might easily pooh-pooh the attacks and say, as I have known said, that they were merely the tantrums of a spoilt child and required only firm discipline. It may be perfectly true that the child is a spoilt child, and that the crying is due to mere passion because the child cannot have its own way, but the 'going black in the face' is none the less an indication of real and very serious danger; what starts as a mere bout of crying ends in a spasmodic closure of the glotis during the violent inspirations of crying, the child becomes cyanosed, and, as I have seen happen in some cases, passes into a state of complete unconsciousness or into a general convulsion."[29]

The following two cases are illustrations of these attacks associated with an emotional upset.

CASE VI.

Doris S., aged three years, has been subject to convulsions at intervals since eight months of age. They occurred about one a week until she was two years old — then she did not have another for about a year. These spells lasted for a minute or two — patient would become unconscious; would stiffen out; hands and feet twitch; and she would get 'black in the face', then pale. After these spells she would soon start playing again. These attacks occurred whenever she was crossed, punished, or whenever she was hurt badly.

Around the house she is very active youngster, is said to be the "champion climber", and is usually good natured. She is considered very bright intellectually.

In the family group she is the only child of her sex and the youngest of two children. She is badly managed by a neurotic mother who tends to nag at the child and is most oversolicitous in regard to her welfare.

No reason could be given for the patient having stopped these attacks for a year and then suddenly starting them again.

CASE VII.

Herman W., aged ten and one-half years, had a convulsion when two years old following a severe thunder storm. The lightning struck close by the house and the neighbors all ran into the mother's tenement; there was great excitement and loud talking at this time. Patient was left alone in a room — when mother returned to him he was in the first stages of a convulsion. He became unconscious; "black in the face"; and had convulsive movements of hands and feet — several times he stiffened out and remained rigid for a few seconds. Following this convulsion the family noticed he had nystagmus. Patient has had no convulsions since the first one.

The following two cases are illustrative of those included in the physiological and the emotional group.

CASE VIII.

John C., aged three and one-half years of age, had his first convulsion at eight months — after a severe head trauma. At the time of the first attack he was playing on the floor. He fell over, became stiff; "blue in the face"; muscles of his mouth twitched; he became unconscious; and in about five minutes became limp and then conscious.

The second attack occurred several months later while playing on the street — he suddenly fell to the ground and had the same kind of convulsion as previously. At this time his mother became terrified and very solicitous. Since then he has been having attacks more frequently — would have one a day and many times would have as many as three in one day. These apparently were brought about by situations causing him some displeasure — as when teased by other children or when taken by mother to be put to bed against his wishes, etc. Patient has never but once had an attack when with the father. At this time patient was fighting with a little boy on the street and father separated them by taking patient away — whereupon patient had an attack. Mother discovered that by screaming at patient or threatening to spank him or slapping him in the face with wet cloths, she could bring him out of an episode before he lost consciousness. After all his attacks he has been drowsy and wanted to sleep. The last one occurred when mother was undressing patient for bed. He was standing by the couch when his older brother walked by and stepped on his foot. Patient began to cry and from this went into what appeared to be a convulsion — he lost consciousness; turned blue in the face; and became rigid. Mother thrust his head under the cold water faucet but this did not bring him to consciousness. It was about five minutes before he regained consciousness and then he seemed dazed and frightened; he soon went to sleep and appeared normal the following day.

CASE IX.

Marguerite M., aged five years, with an intelligence quotient of 129, had a convulsion when one year old as a result of a head trauma. At this time she became unconscious; frothed at the mouth; became black in the face; her "eyes were rolled back"; and there were convulsive movements of her hands and feet. She was exhausted after the attack and slept for several hours. The second episode occurred when patient was about two and one-half years old while she was standing on a chair. At this time she fell and hit her head. (There is a question as to whether the convulsion was the result of the fall, or vice versa). For about two years patient had attacks almost every day. They usually came on when she was crossed or about to be punished. One day when mother called patient from her play, she had a tantrum — lying on the floor, kicking and screaming. She finally fainted; stiffened out; her eyes were rolled back; she had mild convulsive movements of hands and feet; and was unconscious for five or ten minutes. She has had no spells for two years.

The family history is interesting in this case and possibly significant. The maternal grandfather has been suffering from epilepsy for the last several years. The maternal great grandfather died in an attack of epilepsy. The mother, after the death of her first baby, had the habit of scratching herself until "raw". A maternal uncle is considered to be very "nervous". One sister had convulsions while teething at eight or nine months.

Patient is the oldest child in this family of three children. Is described as being generous with people she likes. Is jealous. Does not make friends with children easily. Is bossy with other children. Is friendly with older people. Is stubborn and persistent. She has habit of wanting mother's breast and was an extremely difficult child to wean. Bites her finger nails.

Dr. Still says, "The children who thus "cry themselves into a fit' have usually shown other evidence of a convulsive tendency."*29* It is interesting to note that of the thirteen cases who had their first convulsion or "spells" due to some emotional cause, none showed other evidence of a convulsive tendency.

"The infantile convulsions seem to be caused by excess of emotional excitement; and the two emotions especially prone to produce convulsions are fear and anger. The convulsion seems to imply an instability of the cerebral tissue, an undue liability to violent disorderly spread of excitation, which in turn would seem to consist in deficiency of the limiting or insulating function of the cerebral synapses. The frequency of convulsions in infancy seems to imply that such defect is natural to that phase of development. It is conceivable that the recurrence in infancy of convulsions of emotional origin might interfere with the acquisition of due resisting capacity by the synapses of the cerebral tract involved in the excessive and disorderly discharge of energy."*17*

There is also a possibility, although it was not proven in any way from this study, that these convulsions may be caused by and linked up very closely with the sex emotion and that a child gets a certain amount of sexual satisfaction from these convulsions possible to the extent of producing an organ. In a convulsion there seems to be a general spreading of excitation throughout the entire body; peripheral sensations are produced; there is tumescense; the face is flushed; there are rigid violent contractions of the muscles, especially of the legs, arms, feet, hands, and face; and following the convulsion there is a general relaxation and tendency to sleep. Thus, we may liken this syndrome of symptoms to those in sexual excitation. However, this comparison of the behavioristic similarities in no way implies that the comparison of the exciting causes is valid. In medicine, the doctors knows that many symptoms of disease are similar but does not conclude that because headache and fever are symptoms of scarlet fever, all cases showing these symptoms have scarlet fever. In the same way we cannot conclude that because the overt-manifestations are the same in these emotional cases, the exciting causes are the same. In general, we may say, the nervous system of the infant and young child is so irritable that any and all sorts of responses may result from the same stimulus and many different stimuli produce the same response.

At this point it might be well to discuss some of the possible reasons for the continuance of these episodes; in other words, what are the iterating factors? Certain it is that there are children who form what we might call the "convulsion habit". Table V shows that of the 124 cases studied 42 had a single convulsion and 66 had three or more. This might best be explained on the principle that every nervous activity is enhanced by each preceding one; in other words, each "spell" predisposes to the following one. While it may take considerable time for the highly irritable cortex to respond to the stimuli, when once it has responded, it is much easier for the conduction to follow; in other words, the threshold is lowered. With each spell or convulsion the inhibitory control is lessened and each succeeding attack requires less stimuli than its predecessor.

According to Gates our equipment for explaining learning or habit formation now consists of "the law of Use" and its correlate "the Law of Frequency"; "the Law of Disuse" and its correlate "the Law of Recency"; "the Law of Effect"; and a complex environment which provides specific stimuli in various combinations. Gates says, "What one learns are reactions; namely those reactions which, having once been made, are strengthened during further responses. The simplest form of learning consists in the strengthening of native reactions." He gives 'the Law of Use' as, "Whenever a modifiable connection between a situation and a response is exercised, other things being equal, the strength of that connection is increased. . .

Other things being equal, the more frequently a connection has been exercised the stronger the connection. This is sometimes called the Law of Frequency. . . The Law of Disuse takes a place with the Law of Use as a well established principle. It may be stated as follows: When a modifiable connection between a situation and a response is not exercised during a length of time, the strength of the connection is decreased." A correlate of the Law of Disuse is the Law of Recency, which is stated thus: "Other things being equal, the more recent the exercise, the stronger the connection between the situation and the response. . . The individual tends to repeat and learn quickly those reactions which are accompanied or followed by a satisfying state of affairs. The individual tends not to repeat or learn quickly those reactions which are accompanied or followed by an annoying state of affairs. These statements constitute the Law of effect."*11*

In a more general way, Dr. Myerson says, "Habit resides in the fact that once living tissue has been traversed by a stimulus and has responded by an act, three things result:

1. The pathway for that stimulus becomes more permeable; becomes as it were, grooved or like a track laid across the living structure of the nervous system.

2. The responding element is more easily stirred into activity, responds with more vigor and with less effort.

3. Consciousness, at first invoked, recedes more and more, until the habit-action of whatever type tends to become automatic.

There is in this last peculiarity a tendency for the habit to establish itself as inpendent of the personality, and if an injurious or undesired habit, to set up the worst of the conflicts of life — a conflict between one's intention and an automaton in the shape of a powerfully entrenched habit."[19] Thus, a child at the time of his first convulsion often discovers that he gets much attention and that most of his wishes are granted. Soon after this victory he decides, somewhat subconsciously to be sure, to use this newly acquired "trick" and lo and behold it works and the "convulsion groove" is made deeper. He then discovers that each attack is easier than the preceding one and he soon has the convulsion habit firmly established. He realized what an efficacious method he has of obtaining what he wants so when he is about to be punished or whenever he is crossed he has an attack. Thus we find that habit can and does play a very important part in these emotional "spells" of children and everything should be done to prevent the development of a motor pathway which may be too easily stimulated into activity. The following case might be used to illustrate the formation of the "convulsion habit".

CASE X.

Thomas C., aged six years old, had his first convulsion associated with whooping cough at three years of age. This convulsion occurred during the daytime and lasted for about ten minutes. Patient was unconscious, became "black in the face"; was stiff; his eyes were "rolled back"; and there were mild convulsive movements of his arms and legs.

For the next two years he had many convulsions, resembling the first one. At first these spells occurred about every two months; then later, about every two weeks. Whenever patient was frightened or scolded he had a spell. One time his mother took a hot iron away from him as she was afraid he would get burned. This enraged patient so much that he held his breath, fell to the floor, became rigid and unconscious. This attack lasted for several minutes. He has had no spells for about a year but does have temper tantrums when he is crossed.

Another factor to be discussed in connection with the iterating-factors is the parental reactions to convulsions. In the first place one must consider the type of home these children come from. In the emotional group of 21 children there were

There is also the very serious question of setting a bad example for the brothers and sisters and other children who see the attack and take advantage of this by

7 who came from typical congested Italian neighborhoods "where the belief prevails that children under school age are 'too little' to discipline and where there is sometimes even a superstitious fear that a little child will die after punishment, leaving his parents to life long regret . . . As far as we can judge, the parents whom we meet are themselves handicapped in their parenthood by their lack of early discipline. Some who have thought about the subject want better training for their children but find it hard to achieve against the public opinion of their group."[23] Realizing the environmental setting of these Italian children, is it any wonder that they continue to have convulsions after the response mechanism has been established?

Of 21 cases in the emotional group, 5 children were of Jewish extraction and living in Jewish communities. In consideration of the racial background and ideals of the Jewish community Miss Reynolds states, "Mothers are proud to tell the clinic worker of their untiring devotion to their children, especially in sickness, and loath to undertake measures recommended to cure a child of peevish self-absorption lest their neighbors think them 'without a mother's heart'."[23] Thus in a number of these cases the children were in an environment which was conducive to getting what they wanted with little effort. The children were victims of oversolicitous mothers and fathers because of a number of reasons such as racial conditions; the patient being the only child; loss of other children in the family-unhappy married life; or a combination of these causes.

A marked case of an oversolicitous parent and its reaction to the child is illustrated by the following case.

CASE XI.

Mary J., of Russian Jewish parentage, aged nine years, with an intelligence quotient of 103, was referred to the Habit Clinic because of food capriciousness; thumbsucking; and "spells".

These attacks occurred from the time she was eight months old until she (with her mother) was treated at the Clinic. They usually took place when patient found herself in any difficult situation. Whenever she was threatened with punishment she would fall to the floor, hold her breath, have mild convulsive movements of her arms and legs, and would apparently lose consciousness. The mother, being much alarmed, would pick up patient, fondle her, put her on the bed, and pet her until she recovered. At other times patient would scream and kick when she could not have her own way. After her first visit to the clinic these unconscious episodes completely disappeared but patient still utilized the crude method of screaming and kicking when about to be punished or denied anything. Mother says patient is a "spoiled child" over whom she has no control and is still afraid to discipline her for fear of bringing on a "spell" although she has not had one for several years. When mother starts to punish patient, she will say, "Stop. I'm nervous. I'll have a spell."

In dealing with these problems we are also often confronted with the type of parent who takes convulsions as a matter of fact and minimizes the seriousness of them, thus blocking all methods of therapy. Then, too, there are the parents who not only have accepted a hopeless attitude toward the convulsions in their child but have communicated this idea to him. In many such homes the child is regarded as someone abnormal.

These convulsions in children, which are caused by emotional upsets, are being recognized as more of a psychiatric social problem than a medical one. They not only affect the child who has them but his parents, brothers and sisters, and any other children who happen to see one of these attacks. First of all, they are very distressing to many parents because of the fear of actual injury to the child during the attack. If he screams and cries excessively, holds his breath, becomes "blue in the face", or extremely pale, becomes unconscious, and falls to the floor, the mother is naturally worried. She fears, of course, that the child will actually injure his brain. This fear is very pronounced when the first convulsion or "spell" occurs and it is at this time that the child is showered with great oversolicitude. Many times the neighbors come rushing in and we have a child smothered with attention and sympathy, thus giving his ego great satisfaction. During an attack of this kind more calm reasoning and less confusion is imperative.

use of their imitative mechanisms. If these children see that one child gets attention and the granting of favors by making himself so obnoxious that the parents give in to him, they would be rather stupid if they did not try this method for themselves.

In all of the cases stated above we have the problem of educating the parents. It is of equal importance to make a careful study of the child in order to understand as fully as possible the conflicts that a child may have and just what purpose these emotional upsets serve. In many cases they are used as defense mechanisms—the child is running away from a situation he does not like.

Causes of the convulsions or spells in children may be largely occasioned by mismanagement on the part of the parents. One important element in the home life of the child, which may be in danger of being overlooked, is that the parents themselves often show evidences of mental instability. In this connection the imitative mechanism must be again considered as a child may have imitated his attack from a similar one of an unstable parent. The remedy, therefore, must be sought both in the individual and in the environment. Dr. Thom says, "Notwithstanding the fact that meningitic and encephalitic cases were not considered in this study, my attention was called to two cases of cerebral meningitis associated with convulsions, occurring in children under four, who are now over twelve years of age. These children may now be considered perfectly normal and healthy; they are both doing well in school and have had no convulsions since the meningitic process subsided.

"It occurs to me that the type of nervous system that reacts with convulsions in the presence of some mild toxemia associated with gastro-intestinal upsets, is perhaps the type of nervous system that needs protection from environmental situations. By that, I mean that the individual must be steered so as to avoid many of the gales which the normal individual is quite capable of weathering. For instance, the two patients in the meningitic group who reacted to this rather severe storm with convulsions — when the meningitic process subsided, the convulsions ceased and the individuals were able to carry on quite well without any evidence of brain damage. Thus the convulsions may perhaps be considered as the criterion of the stability or instability of the nervous system."[32]

In several instances in the emotional group were found children whose nervous instability not only seemed to be manifested by their convulsions but also by night terrors and somnambulism. Before proceeding it might be well to mention that night terrors and somnambulism might be an indication of epileptic or epileptoid attacks but in the following cases they were not diagnosed as such by the physician.

CASE XII.

John R., aged eight years, had his first convulsion at fourteen months, associated with strangulated hernia. Since a mastoid operation at six years he has had attacks which occur in the early part of the evening after he has gone to bed. He will not have an attack for seven or eight months, then will have several. During an attack he screams and cries; talks incoherently; and "his eyes are wide open and staring". As soon as the attack is over he goes to the toilet, and when he returns he has broken out in a profuse perspiration. He claims to remember nothing about the episode afterwards. One doctor suggested that he had had an "ether scare". Mother believes patient has these attacks when he has been over-active and also that they are often associated with "worms".

There is no history of mental or nervous disease in the family history, although both father and mother are said to be neurotic and one sister had chorea for about two years.

Patient is the youngest of four children. He lives in a home which is divided by friction and is managed by physical force, by inconsistent discipline, or by nagging. Mother is especially oversolicitous in regard to his welfare.

His birth and developmental history are apparently normal. However, he has had a considerable amount of sickness — was born with a rupture and had an operation for this at fourteen months; had a second rupture at two years, at which time he had an operation; rheumatism at two years; measles at three years; whooping cough at five years; and mastoid at six years.

CASE XIII.

Fred S., had his first convulsion at eight months following a fall. He is now seven years of age and has been having night terrors for the past two years, occurring nightly. He wakes up about an hour after going to sleep — cries out, "Oh, mamma", as though in great terror — whistles, yells, kisses mother but does not look as though he recognized her. Sometimes he runs around the room in circles and once was found trying to open the window.

There seems to be nothing significant about his family history or birth and developmental history.

Myron S., aged four and one-half years, had his first convulsion at twenty-months while under ether. Since a tonsil infection about a year ago patient had been in the habit of getting up at night and wildly walking or running about the house — wringing his hands and sometimes crying. No matter how his parents try to attract his attention to make him recognize them, he fails to do so and then after ten or fifteen minutes comes to and says in an exhausted tone, "Hello, mamma", as though he had suddenly discovered her. He has no recollection of what he has been doing before this. Immediately following his illness he had these episodes two or three times a night but for the past few months only once in about two weeks.

There seems to be nothing outstanding in his birth, developmental or family history.

The possibility of there being a common basis for infantile convulsions and various neuroses of childhood is discussed by Dr. Still. He says, "There can, I think, be little doubt that in certain cases also infantile convulsions foreshadow other manifestations of nervous instability which appear in later childhood . . . Of course we must be careful in tracing any relation between conditions so common as infantile convulsions on the one hand, and habit spasm, night terrors, or the various neuroses of childhood on the other, but the sequence is at any rate sufficiently frequent to justify the suspicion that both are dependent on one underlying cause, a congenital nervous instability, and to this extent the earlier manifestations may foreshadow the later. Dr. Coutts, in an interesting paper on this subject, has pointed out that infantile convulsions are often followed by neuroses not only in childhood but also in later life." "In all these conditions, whether the convulsive manifestation be of the major or of the minor variety, there is a common basis in an abnormal nervous instability and on this I would lay some stress, for it forms a link between these and the other convulsive conditions . . . It would seem that this nervous instability may be congenital or acquired; in one case an infant shows a tendency to convulsions almost from the day of its birth, in another it is only in later infancy, when rickets had had time to develop, that convulsive tendency appears."[29]

CONCLUSIONS

In making any interpretation of the facts ascertained in this study it must be kept in mind that a selected group is being dealt with, that records in some instances are incomplete, and that the number of cases is limited. The following points presented themselves from the general statistical study and are at least provocative of thought: —

1. Convulsions occurred in 124 or in about 8 per cent of the children referred to the Habit Clinics.
2. The majority of the children were of Italian or Jewish extraction.
3. In many cases there seems to be a predisposition to convulsions.
4. The majority of the birth and developmental histories were essentially negative.
5. The greatest incidence of convulsions occurred in the cases associated with acute infections, gastro-intestinal upsets, and in the unknown group. Only 4 per

cent of the cases had convulsions associated with trauma.

6. The frequency of convulsions is much greater among boys then girls.
7. Forty-four per cent of the cases were mentally defective or retarded.
8. One hundred and four (84 per cent) of the cases had their first convulsion prior to thirty months of age and the greatest concentration point is between six and eighteen months.
9. Children usually have a single convulsion or many, rarely two. In the emotional group only two had one convulsion while eleven had three or more.
10. The majority of the cases over five years of age have not had convulsions for over three years.
11. It might be suggested that the earlier a convulsion begins, the more likely that a child's mental capacity will be affected; and the fewer convulsions a child has, the better chance he has of developing his mental capacity to its fullest extent.

In a study of the twenty-one cases, thirteen having the first convulsion associated with an emotional cause and eight having the first convulsion associated with a physiological cause and other convulsions with an emotional cause, we noted that:

1. The majority of the cases in this group were males — there being seventeen males and four females.
2. The convulsions were associated with the primary emotions of fear and anger and possibly sex.
3. The iterating factors are: *a.* Habit forming mechanism in the child. *b.* Parental reactions to the convulsions.
4. The convulsion habit must be taken into consideration and great effort made to prevent the development of a motor pathway which may be too easily stimulated into activity.
5. In certain cases infantile convulsions seem to foreshadow other manifestations of nervous instability.
6. These convulsions in children are decidedly psychiatric social problems.
7. The remedy for these convulsions must be sought both in the reeducation of the individual and in the modification of the environment.

In consideration of the foregoing facts, what stand should the social worker take in regard to the convulsive disorders of childhood. In the first place, it is most important that a social worker should have a thorough understanding of the convulsive disorders of children before attempting to take a history regarding these attacks — thus she will know what data will be desired by the physician working on the case; what she, herself can do to alleviate the matter; if no physician is working on the case, she should know whether or not to refer the case to a pediatrician; and above all she should take no steps in regard to a specific case without the advice of the physician. However, she must have certain, well-established policies in regard to dealing with the various parental reactions to the convulsive disorders of their children and whenever necessary must know how to educate these parents to the fact that convulsions in infancy are of great significance until proven otherwise.

In talking with parents concerning the convulsions of their children one wonders how much stress a social worker should place upon those disorders. It is agreed that one is dealing with individual differences and that the personal equation must be taken into consideration, but is it possible to make any generalizations in regard to this problem? Is it wise to intensify the importance of convulsions to an over-solicitous mother? Is it possible to emphasize convulsions without creating a great fear in this type of mother which might cause a worse set of reactions in the child as a result? In dealing with the mother, on the other hand, who tends to minimize these attacks in the child, is one likely to over-emphasize this point which, as a result, might be more disastrous to the child? Could this education of the parents be put on a par with the preventive work of dental conditions? If this work were conducted in groups would it assume undue proportion? Should the instruction be conducted by special campaigns, or should it be taken up by the various social workers as they go about the community?

If parents can know the tendency to convulsions, or the liability of a certain condition coming about, they can care for their children, provided they have sufficient intelligence and suitable surroundings, to so guard the child in such wholesomeness of living, diet, self-restraint, etc., as to tide them over the critical periods of childhood to maturity without their manifestating this symptom. Apparently this has been done in many cases, but parents certainly need to be taught how to take care of children who are especially prone to convulsive disorders. Thus, the important work of a social worker in this connection seems to be one of re-education and training of the parents whose children are predisposed to convulsions.

A nervous system with a predisposition to convulsions seems able to cope with a limited amount of physical and mental stress and strain quite efficiently. It is only when the potential convulsive child is confronted by circumstances and conditions which require endurance in excess of the average that his limited reserve seems to have been completely utilized. There is then no further resistance to stimuli, regardless of their origin. There appears to be a limit to the amount of physical strain and mental stress that every individual is capable of bearing, determined not only by the inherent qualities of the individual, but also by the environmental conditions during the formative period of early life.

To what extent the parents of a child predisposed to convulsions can be helped to control these environmental factors which act as exciting causes, is one of the important problems to be worked out by the medical profession in collaboration with social workers.

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THE IMPORTANCE OF THE INDIVIDUAL IN THE TREATMENT OF EPILEPSY

by Douglas A. Thom, M.D.,

Director, Division for Mental Hygiene, Department of Mental Diseases

The late Sir William Gowers, in the introduction to his well-known book, "Epilepsy and Other Convulsive Diseases," published in 1881, states, "The convulsions which occur as a result of chronic brain disease may be divided into two classes, (1) Those which are the result of organic disease, such as can be recognized after death, (2) Those which are the expression of a condition of the brain which is not evidenced by any visible alteration," the only evidence of disease being the disordered function. He speaks of this latter group as "depending upon such conditions of the nerve centers as elude detection by methods of examination at present at our disposal."

Nearly fifty years later, Lenox and Cobb, in the closing paragraph of their monograph, published in 1928, entitled "Epilepsy," reach the conclusion that "There is no constant anatomical lesion in epilepsy and only a minority of patients with extensive cerebral pathology have fits." The same authors further state, "We are forced to postulate some unknown constitutional element," referring to the fundamental factors which account for the convulsive phenomena, and go on to say, "Moreover, our meagre knowledge and crude methods do not permit us to measure this tendency."

In speculating about the physio-chemical forces which may conceivably be fundamental, in rendering a particular individual susceptible to fits, whether they are hysterical, epileptic, eclamptic, or traumatic, Lenox and Cobb conclude that, "Though this variability is presumably related to the subtle chemistry of the cell, its elucidation is for the future."

If one were not acquainted with the literature on the subject of epilepsy they might well conclude that little advance had been made during the past half century in our understanding of this baffling disease. We are still speaking of our limited knowledge, crude methods which permit abnormalities, both pathological and biochemical, to pass by undetected, yet there has been and still is, a small army of hard-working, conscientious, well-trained men and women driven on by the time-honored curiosity of the scientist, held to the task by indominatable patience, who have been laying the foundation for future research, which cannot fail to bring ultimate results. At the moment, however, we are still in a state of darkness as to even the physiological mechanisms by which convulsions are produced.

Hughlings Jackson, in the early seventies (1873) suggested that the convulsion was due to cerebral irritation, and was ardently supported by his colleague, Gowers, in this hypothesis. Sargent, in England, and Rosett, in this country, have more recently put forth the theory that the fit was due to a release phenomena of the cerebral cortex, allowing the lower centers to operate uninhibited. A modification of the release theory is that termed the short circuit theory. It implies that localized cortical lesions may bring about deflection of a group of nerve impulses by interrupting the association fibres, while the explosive theory assumes that the convulsion is caused by suddenly affecting brain tissue en masse, through chemical changes which are not clearly understood at this time.

Whatever the mechanism may be, whether confined to one of the four theories outlined, or some other that only time alone will reveal, (or perchance a combination of two or more different mechanisms) it will be doubtful if we find that the same mechanism is constant in every individual case, or that it operates consistently in the same individual. This lack of consistency is made quite obvious by the observations of convulsive phenomena associated with head injuries sustained in the war, where only from 5 to 8% of such cases had fits, and again by the recent report made by Dr. H. L. Parker, (Rochester, Minnesota, Research Association in Nervous and Mental Diseases, December 1929) which indicated that there was no consistency in symptoms, particularly convulsions, in relation to brain tumors. The same type of tumor with an identical location would be associated with convulsions in one case and absent in the next.

Turning our attention to the pathological investigations on the subject of epilepsy we are confronted with the fact that interesting and spectacular as some of the pathological lesions are found associated with the chronic convulsive disorders, we are still without the slightest clue of what may be called a characteristic pathological finding for epilepsy. Such lesions that have been found associated with the disease have not been sufficiently constant to make it at all conclusive that they represent the determining pathological process. Then again, the fact remains that similar lesions have been found associated with other clinical entities where convulsions have not been present.

The question has always arisen in the mind of the pathologist whether the lesion found was the cause or the effect of the convulsion, and invariably we are thrown back upon the dictum of Gowers, who stated, "Epilepsy is a disease of tissue, not of structure, a disease of the gray matter, it has no uniform seat."

Therapeutic measures, particularly those of a specific nature, have been equally disappointing. The earliest records of medical history bear witness to the fact that epilepsy has been attacked therapeutically from every available angle. The medicine man and other fanatics have approached the subject with all the enthusiasm of the mystic. Bleeding, trephining, injections of snake venom, surgery to the point of almost complete visceration, have been practiced with but comparatively little success. The most encouraging approach from a therapeutic point of view is that which has come from treating the patient rather than the disease. Psychotherapy and modern diatetics are examples of this approach. Years ago the medical profession took the stand that epilepsy was not a disease, that it was but a symptom or a symptom complex, and that it represented nothing more than an expression of some well-defined or perhaps rather obscure pathological condition, and that careful clinical examinations and intense research investigations would solve the problem.

This conception of epilepsy has been most stimulating and has directed our attention to a more careful and painstaking approach to the problem of the convulsive disorders. We are no longer satisfied with a casual physical and neurological examination but we have delved deeply, and we hope intelligently, into the mental life of the patient. We have utilized all the advances that have been made in modern laboratory technique in our efforts to determine if biochemistry has not something to contribute to our understanding of the underlying cause of this baffling condition. Psychology and psychopathology have been utilized and the whole mental life of the patient has been subjected to intensive scrutiny. In brief, all that is available in medicine has been brought to bear on the solution of the problem. Still we are confronted with a large army of individuals suffering from convulsive disorders whose pathogenesis still eludes detection.

I have made this hasty review of the present status of our knowledge regarding the mechanisms, pathology, and therapeutics of epilepsy, not to make record of our failure to solve the problem relating to the causative factors underlying this disease, or to strike a pessimistic note on the limitations of research. Much of great value has been forthcoming from the clinical studies and researches of such men as Gowers, Jackson, Southard, Rows, McCurdy, Clark, Rosett, Musken, Geylein, Cobb, Lenox and others — all too numerous to mention. Rather has this preliminary statement been made in order to justify the approach to the problem which I am suggesting, namely: a plea for the early recognition and treatment of the convulsive disorders and that the treatment should be directed toward the individual rather than the disease in all those cases suffering from the chronic convulsive disorders where definite pathological causes have eluded detection.

Until recently practically all of our observations on the subject of epilepsy have been considered from the institutional point of view. That is, our clinical observations, our pathological investigations, and to a very large extent, our experimental therapy, have been confined to patients whose symptoms have been of such severity and long duration that they have necessitated their institution supervision. This group not only represents less than 3% of all individuals suffering from chronic convulsive disorders but as a group they appear to be quite different in their physical and mental symptomatology. A study made of the patients at the Monson State Hospital, Palmer, Massachusetts, some years ago, revealed that 90% of all the inmates of that institution were either intellectually deteriorated or mentally deficient. Only 25 of the entire group of over 1,000 patients could be looked upon as being normal mentally. One out of every three could not read or write. Pathologically, two out of every three cases which came to autopsy revealed gross brain lesions visible to the naked eye upon superficial examination.

A large per cent showed neurological lesions indicating brain damage. The average duration of the convulsions before entering the hospital of the adult cases was 13.6 years. The social, cultural, intellectual and economic level of our institutional cases is obviously lower than that of the general population at large.

The institutional material represents the end results of some pathological process which undoubtedly bears a direct relation to convulsive disorders. The devastation that is produced by the convulsions themselves cannot be ignored. These cases stand out in marked contrast to the great majority of patients that one sees in our out-patient clinics and in private practice.

A report entitled, "Defects Found in Drafted Men, 1920," from the office of the Surgeon General, presents certain statistical information which is of value in estimating the incidence of epilepsy in the general population. Prior to the World War these statistics indicate that epilepsy was the most frequent neuro-psychiatric condition coming to the attention of recruiting officers, but the figures covering the period for the World War show that epilepsy was preceded numerically by four other neuropsychiatric conditions, and that it constituted 9.2% of the entire neuropsychiatric problem. The local boards were without instruction, prior to November, 1917, to reject applicants on account of epilepsy. After that date 5.15 per thousand were rejected as epileptics by these boards, the total number being 14,195 cases.

It appears from a document issued under the title of, "Medical Department of the U. S. Army in the World War, Vol. X," that 6,388 cases of epilepsy were detected in service, 76.2% of which had fits for a period over five years. The social and economic condition of the epileptics as a group was not particularly different from the general run of service men. 75.8% were single as compared with 86.8% in the non-epileptics. Economically there was little difference.

Epilepsy was recorded in a varied amount in the different states; for example, Vermont showed 12.7 per thousand, Maryland 7.9 per thousand, Massachusetts 5.9 per thousand, while Louisiana had 6.88 per thousand. It was stated in the same report that, "two-thirds of one per cent of the men of military age from the agricultural areas of the north — that area occupied by the largest portion of native whites — were found to be epileptic." This of course excludes all those cases that were under institutional care. Notwithstanding the fact that these figures deal with a rather selected group of the population, it is fair to point out that this particular group would have a very large representation in industry, agriculture, or other occupational pursuits because of their age.

It has been estimated by various authorities that from two to four in every thousand of the adult population suffer from epilepsy. Dr. Edward A. Tracy, in a survey not yet completed, of the Boston school population, *states that approximately four children per thousand between the ages of five and sixteen are suffering from convulsions. This represents a large group of children who are at least attempting to carry on in spite of their handicap and who are not incapacitated for school attendance. This of course indicates, as previously stated, that but a relatively small per cent of the population suffering from epilepsy, either children or adults, are in institutions. It would be difficult indeed to estimate just what proportion of this non-institutionalized group are well adjusted to society, and whose industrial inefficiency has been but little impaired.

The general practitioner and the neuropsychiatrist in private practice find that but a relatively small per cent of their epileptic patients are deteriorated intellectually; psychotic symptoms are infrequent and neurological signs indicating organic disease are the exception. It is true that we do see the feeble-minded child who is having convulsions, but the convulsions are probably part and parcel of the same pathogenic condition which produced the feeble-mindedness. We are all familiar with those personality changes which so commonly are associated with epilepsy or any chronic disease of long standing — irritability, hypochondriacal ideas, depressions, self-centeredness, are certainly not confined to the epileptic, and we find many individuals who have suffered from epilepsy for years quite free from the so-called "epileptic personality."

A large part of this non-institutionalized group are carrying on either in school, the store, shop, factory, office, or whatever their vocation may be. Inquiry has revealed that several large industries have had epileptics in their employ over a long period of time, and the occupational history of those individuals coming to our out-patient dispensaries or our clinics, indicates that they are in a very large measure industrially efficient.

A recent survey of the jails and houses of correction and Prison in the State of Massachusetts, was made in an effort to determine the frequency of epilepsy among the reformatory and prison population. Twelve of the fourteen county institutions,

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*Personal communication.

with an average daily population of 2,504 reported that they have no epileptics at the present time. One of the **state institutions with an average daily population of 725 reports that among the present population there are five epileptics sentenced for the following reasons: violation of auto laws, abandoning an infant, vagrancy and assault and battery with a dangerous weapon, drunkenness and larceny.

The Reformatory for Women, which has an average daily population of 277, reported they have had but ten epileptics since May 1, 1918. The Bridgewater State Hospital, an institution which gives hospital care to the insane criminals, the defective delinquents, and also a portion of the prison population which are sentenced for minor offences, has a combined population of 1,932, reports thirty epileptics among their criminal population. It is of interest to note that the, offences which brought these epileptics under the custodial care of the state were very largely of minor nature, such as, drunkenness, contempt of court, vagrancy, exposing and keeping for sale intoxicating liquors, and cases transferred from almshouses. In only two of these cases was there any attempt on the part of the epileptic to do bodily harm to another person.

These combined groups represent a fair cross-section of the prison population of Massachusetts at the present time and indicate that the type of crime committed by the epileptic is not unlike that which one would expect from any individual so handicapped that competition in the open labor market was difficult. Larceny, drunkenness, vagrancy, and general irresponsibility are the common offences of the epileptic. Of the 6,388 cases of epilepsy reported by the Medical Department of the U. S. Army in the World War only fifty three came up before the Disciplinary Boards.

This survey does not indicate, as we have been prone to believe, that the atrocious crimes of violence are common among the epileptics.

THERAPY

Therapy for non-institutional cases:

1. Every effort should be made to determine by a careful clinical examination and the application of laboratory tests, X-ray examinations, and all other available methods, such physical, biochemical, and psychogenic factors, that may directly or indirectly cause, aggravate, or perpetuate, the convulsions, bearing in mind that such organic factors can only be eliminated insofar as it is compatible with the patient's general, physical and mental well-being.

2. Discuss your findings frankly with the patient. The results of a time-consuming, ofttimes discomforting and expensive examination, from which he is seeking relief and pinning his hopes for the future, are of vital importance to him.

3. With equal frankness discuss the patient's incapacity in relation to his future happiness and efficiency.

a. What the patient can reasonably expect from therapy, whether it be an operation, the administration of drugs, dietetic measures, or whatever else may be indicated.

b. What can be expected by proper adjustment of certain physiological conditions which are working out to the disadvantage of the patient, such as regulating life habits — sleep, diet, bowels, sex, exercise, work, social activities — stressing the fact that any one or more of these factors may play an important part in reducing or eliminating the convulsions.

4. Psychogenic Approach:

a. Eliminate insofar as possible, the mystery and feeling of impending danger that surrounds the patient suffering from epilepsy. This may be done by removing the social stigma that is attached to the disease, by minimizing the importance of an occasional convulsion, and a frank statement of the hereditary aspects of the disease.

b. Create optimism instead of pessimism wherever justified, which means in all cases where intellectual deterioration and psychotic symptoms are not present.

c. Help the patient understand that they themselves have much to contribute to their own cure by making intelligent observations as to conditions and circum-

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**Deer Island Reformatory.

stances which are associated with their convulsions, and by following explicitly the directions of the physician.

d. Impress the patient with the fact that because you have been unable to find any physiological factors to account for his illness up to the moment, this does not mean that interest and further investigations will cease.

e. Discuss with the patient perfectly frankly some of the researches that are being carried out to determine the causes for convulsions, keeping in mind the epileptic needs all the hope and courage which the circumstances justify.

5. Education of the Family:

a. The head of the family and those coming in immediate contact with the patient, should be given all the information that is essential to their having an intelligent understanding of the disease, that they may adopt a more helpful attitude toward the patient, encouraging optimism rather than pessimism, and assist in carrying out instructions with greater wisdom and making such observations on the patient as will be useful to the physician. The patient must be encouraged to do for himself and others all that conditions will permit. In brief, all those individuals coming in contact with the patient must help him build his life around normality instead of abnormality.

6. The same type of education should be extended to the employer or those coming in immediate contact with the patient outside the home.

7. Careful consideration should be given to the question of the selection of vocation, and the type of education which is most likely to work out to the patients' advantage. One aspect in the treatment of epilepsy that has been stressed by the psychoanalytic school and steadily neglected by most general practitioners and neuropsychiatrists has been that of psychogenic factors or situations acting as the precipitating cause of the convulsions. This neglect has been due, in part at least, to the early antagonisms toward psychoanalysis in general, and in part to the time-consuming technique involved in carrying out the treatment. There are, however, innumerable psychogenic factors operating very near the level of consciousness and which can be removed without the long drawn out psychoanalytic approach. These emotional situations are of greatest importance as precipitating factors for the convulsions. Often symptoms of this type are not recognized as part of epilepsy but are looked upon as hysterical manifestations. However that may be, they do represent a chronic convulsive disorder and must be treated as such.

I think it would be generally agreed among both psychiatrists and neurologists that convulsions, as a manifestation of hysteria, are relatively uncommon; that is in comparison with other physical symptoms of mental conflicts, such as disorders of the special senses, sensory disturbances and amnesias, and that there is greater danger from the standpoint of diagnosis in diagnosing epilepsy as hysteria than in calling hysteria epilepsy.

Of fifty cases studied at the Out-Patient Clinic of the U. S. Veterans' Bureau diagnosed as hysteria seventeen were having convulsions as a part of the clinical picture when first admitted to the clinic. During a period of careful observation and study lasting six years it was necessary to change the diagnosis in seven of these cases to epilepsy. Fifteen of these seventeen patients diagnosed as hysteria are continuing to have convulsions. These fifteen cases are no less incapacitated than those cases diagnosed as epilepsy, yet the characteristic clinical manifestations of epilepsy are absent, and those indicating psychogenic origin of the fits are present. Rarely have we found it necessary to change the diagnosis from epilepsy to hysteria.

This does not mean that convulsions of an epileptic character with all the motor and mental phenomena, so characteristic of that condition, may not be precipitated by emotional situations. It simply stresses the point that in the treatment of these cases, psychogenic situations which are operating at the moment cannot be ignored. The following case exemplifies this point.

"Mrs. C., born in Connecticut, twenty-five years of age, birth and development normal. As a child she was considered unusually bright. When ten years of age she had her first convulsion, and attended the clinic at the Children's Hospital. They were occurring infrequently, once in two or three months, and did not prevent her from continuing her education to the second year in high school, when she left on account of an attack of rheumatic fever. The attacks usually occur at night but since her marriage three years ago, she has had attacks at infrequent intervals during the day. These attacks are usually precipitated by heated arguments with her husband. There is apparently no aura, consciousness is lost completely, she bites her tongue, but does not wet or soil her clothing. Spells last about ten minutes and, from the description, have none of the dramatic characteristics associated with hysterical attacks.

The home situation was very chaotic when patient first came to the hospital, as the patient's father had accused her husband of endeavoring to have her put away in an institution on account of the frequency of her convulsions. Patient's mother-in-law had her child and she was not permitted to see it, and the patient was living with her own mother and her husband was living at his home. In spite of this estrangement, there seemed to be a desire on the part of both husband and wife for reconciliation and the case was turned over to the Social Service. The family difficulties were ironed out and the patient and her husband and child separated from the other members of the family and started to build up a little home of their own. This was in October. Patient was seen last May 17. At that time she had not had a convulsion for eight months and things at home were going much more satisfactorily. The point of interest in this case is the fact that this woman having convulsions, beginning at the age of ten, which were epileptic in character, should at the age of twenty-two begin having attacks precipitated by emotional situations which, from an etiological point of view, would have been diagnosed as hysteria, but from the character of the convulsion itself, must be diagnosed as epilepsy.

There seems to be little doubt that convulsions of a psychogenic origin with all the characteristic features of hysteria may occur in an individual suffering from idiopathic epilepsy. I have the case of an ex-soldier in mind whose convulsions began following a severe head trauma while on active duty. Besides occasional spells which occurred without any apparent cause he has had three convulsions which were undoubtedly precipitated by severe emotional stress. The first occurred while his company was dedicating a city square to the memory of an ex-service man. The second occurred after being told that he would not receive an appointment to a certain position which he had been anticipating for several weeks, and the third occurred immediately after he had been notified that the Canadian Government had granted him a compensation which was sufficient to relieve the poverty-stricken condition of himself and immediate family. These convulsions following a stressful emotional state were clinically identical with his other spells and correspond to our present-day conception of the epileptic phenomena.

One may have to deal not only with the patient suffering from epilepsy but he may have a very disabilitating neurosis as well. In a study of the industrial history of forty-seven epileptics who were attending the out-patient clinic of the U. S. Veterans' Bureau, at Boston, fifteen were employed. Of the thirty-two unemployed the mental attitude toward their affliction, plus the fact that they were being adequately compensated, accounted (as well as industrial conditions) for a large part of their industrial inefficiency. The frequency and severity of spells was far less important than the attitude of the patient toward his disease.

These very commonplace generalities are ofttimes minimized or entirely overlooked in our interest and zeal to find some definite clinical, pathological or biochemical evidence as to what the underlying causative factor of the convulsions may be. Such a scientific approach is justified and commendable. Any medical procedure that falls short of a thorough and complete study when circumstances permit is nothing less than neglect. Yet during the process of investigation much may be accomplished that will work out to the patient's advantage by treating the man while studying his disease.

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BY

GEORGE M. KLINE, M.D.
DOUGLAS A. THOM, M.D.

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THE PHYSIOLOGICAL APPROACH TO THE PSYCHONEUROSES

By ABRAHAM MYERSON, M. D., DIRECTOR OF RESEARCH BOSTON STATE HOSPITAL, PROFESSOR OF NEUROLOGY, TUFTS MEDICAL SCHOOL.

Psychological Approach to the Psychoneuroses: That there are two important approaches* to the abnormal life of man, according to one's general leanings, is quite evident in the present day literature of psychiatry. There is, first, the attitude fairly well exemplified by Bernard Hart's "Psychology of Insanity" and the whole psychoanalytic school, by which the study of antecedent mental states and experiences is linked up in a causative way with the pathological picture. Physiological states are excluded from consideration as belonging to a different universe of discourse. An elaborate technique is evolved by which the critical experiences of the past are brought into causal relationship with the clinical picture. There is no mention in such studies of fatigue, loss of appetite, disturbed sensation, insomnia, blood picture, reflex conditions, and so forth, except in the most casual way.

While this approach is valid enough from a theoretical and practical point of view, it has never become scientific. Instead, it has become a logical system, even a metaphysics. The lack of control studies and the impossibility of introducing measurement prevent its being considered as conforming to the scientific method. It has its own place, since not all matters can be reduced to science, and consciousness least of all.

ORGANIC APPROACH TO THE PSYCHONEUROSES

The second approach regards the mental states as being definitely linked up with physiological alterations in the organism. It assumes that emotion is an organic event; that thought is firmly inbedded in the cerebral and other structures; that modes of action make use of biological mechanisms, some ancient in their history, such as the instinctive modes, some more recent, exemplified by intelligent, inhibited conduct. This approach is solidly based on scientific knowledge. Every case of myxoedema with its alteration in mood, thought, and conduct gives it incontravertible validity. Every general paretic with his altered personality, as the result of the reaction of his nervous structure to the *trepanoema pallida* substantiates the idea that personality is organic, or at least, organically based. That the content of consciousness can be altered by chemicals is exemplified by the profound hold which C_2H_5OH has upon the human race, and the idealistic philosopher who separates mind from body gives his case away, when he takes a cup of

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*I do not mean to imply that there are only two approaches. The mechanists (as Loeb) reduce all life to physical-chemical phenomena and consciousness to an epi-phenomen of no special importance. In other words, the values of our existence are the mere smoke of organic combustion. To Lloyd Morgan mind is a universal correlate of matter, but does not evolve from matter, but with it. Then there is the doctrine of hylopsychism, according to which "all matter is instinct with something of the cognitive function". The doctrine of psycho-physical parallelism, which has an ancient history, assumes that the *two sets of phenomena tick along together without being connected, so that brain fact and mind fact never meet but are always parrellel.* Then there is the radical empiricism of William James, the "elan vital" of Bergson, and many abstruse theories which need not here be considered.

There is the modified psychological approach which ranges all the way from the great studies of Charcot and Janet to the well-known attitudes of Prince, Dejerine, and duBois, as well as in the numerous writings that appear in the current journals, which deal with maladjustment, economic difficulties, marital and sexual maladaptations, and so forth. In "The Principles of Psychotherapy" by Janet, a brilliant account is coffee to make him think better, or when he seeks rest so that his concentratino will be improved. Encephalitis, which has contributed so tremendously to our neurological and psychiatric knowledge has demonstrated quite vividly that a passing infection may leave no residuals whatever, except in the alteration of personality.

This approach to psychiatry and its problems must go logically even further. It must state that there is no separation between the organic and the functional diseases, except as a matter of convenience. If I experience fear and as a result, I become the victim of a psychoneuroses, there is no phase of the experience which cannot be rigidly linked up with the organic world. The object of the situation which evoked the fear is organic. Physical agents of well-defined type, such as light waves, sound waves, chemical emanations, which evoke the sense of smell, are organic. Emotion is largely the thalamic, vaso-visceral, motor reverberation of an event. All the past experiences of the individual have been organic, and their effects, whether transitory or permanent, were organic.

Whatever consciousness and meaning may be, they may be changed by the physical environment, and can be played upon by physical means. A fear which dilates the pupils, dries up the mouth, alters the heart beat, changes the respiration, adds to or retards the movements of the gastrointestinal tract, alters the condition of the bladder and genitals, and which disorders or suspends consciousness, — is as organic as atropin. Every mental event, therefore, can be studied in relationship to the bodily changes with which it is associated.

This approach does not reduce consciousness, meaning, and the mental states generally to epi-phenomena, nor does it mean that we can separate, like the behaviorists, conduct from the introspective states, concerning which the patient speaks. We would divorce psychiatry from all human value, if we exclude from our consideration the mental experiences of the patient as he tells them to us, or as we surmise them to be, since in the last analysis, psychiatry deals with abnormal mental states.

I cite in the bibliography of this paper some of the recent work done, which indicates how profoundly the mental life involves the physical structures, from the gastrointestinal tract to the hematological picture.

Moreover, there is to be exercised great caution in calling any state functional and without organic basis. The history of medicine in recent years is, in part, the history of the discovery of organic pathology in what was considered functional. A prime example of this is the disease, *paralysis agitans*, which was ascribed to emotion, to nervous shock, and to a dozen and one things, and remained without pathology or organic etiology, until Wilson described his syndrome, and started a series of researches which culminated in making this disease organic in origin with a definite pathology.

Even though we gain no insight into the actual causation of a psychosis or a neurosis by the study of the physical symptoms, which accompany it, we are enabled to understand the clinical picture better. We may ask of a mental state, in how far does it disturb bodily function, the great organic machinery of the body? And since it is true that a mental state may alter digestion, (by this theory it is in part altered digestion) it is perfectly conceivable that by altering the digestion, we may in turn change the mental state, or, at least, hasten the resumption of equilibrium. *In the circle of events which is the relationship of mind and body, therapeutics applied at any point may alter the entire circle.*

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given of various points of view, and the current neurologic and psychiatric literature is replete with useful and appropriate studies of the neuroses which arise out of psychological difficulties and which are treated psychotherapeutically. The points of view here represented have this in common — that the physical symptoms are not carefully studied, while detailed attention is given to the mental life. Both from the practical standpoint and from that of scientific effort, there is ample justification for the psychotherapeutic approach. The one difficulty that appears is simply this — that to analyze the life situation of the individual in all its complexities is an enormous task and in the last analysis is highly subjective. A psychiatrist needs to be a very wise man, who can treat the economic difficulties of people in the machine age with the terrific drive of our modern life, and he needs to be doubly wise who can adjust man and wife, parent and child in an age when the social structure is rapidly changing in the matter of sex, marriage, and the home. It is, I suppose, heresy to say that the social forces here are so complex and powerful as to defy the efforts of Solomon himself, and perhaps I am a heretic when I say that I see nothing in the training of the psychiatrist which renders him so wise a man as to solve the problems of sociology and matrimony.

ANALYSIS OF THE DISTURBED FUNCTIONS OF THE NEUROSES

Thus, in the consideration of the psychoneuroses, especially of the type usually described as the neurasthenic syndrome, I have formulated an approach, which is in large measure, physiological in that it disregards at the beginning of the treatment and the understanding of the case, the minutiae of the mental state and considers first of all, the great psychological functions, and *attends later* to the psychological aspects. In considering these functions, it is necessary to keep in mind that here psychology and physiology go hand in hand, in that a loss of appetite is in one phase psychological, since it is subjective; it is physiological in that it concerns the nutrition of the organism.

So, with the ability to sleep, restlessness and agitation are mental states, but sleeplessness may be considered as an impairment of the function of rest, as an interference with those processes by which the organism builds itself up and repairs the effect of use. Sexual desire is deeply inbedded in the emotional and psychological life of the individual, but it also concerns the great function of reproduction. A sense of fatigue is necessarily subjective. Feeling tired is a mental state, yet since it concerns the display of energy in motion, it becomes physiological.

ENERGY AND ENERGY FEELING

Thus, starting with the elemental, one inquires into the energy of the individual, or, if you please, the sense of energy of the individual. Does he feel weak, exhausted? No lactic acid or real, valid fatigue studies have been made on the neurasthenic. I, for one, would not be surprised to find that there was some organic basis for his fatigue in some impairment of muscle reaction to oxygen. In any event, a detailed study of the fatigue becomes important. There is, commonly, a *reversal of the cycle of energy,* which is an important physiological fact. The psychoneurotic patient quite regularly feels more tired in the morning and throughout the early part of the day then he does when he goes to bed at night. It is quite common for him to grow somewhat livelier and have a greater feeling of energy in the late afternoon and towards night. In other words, when drowsiness and normal fatigue should prepare him for sleep, he is commencing to be awake, and when his energy should be reaching rapidly its height, he is most inert. As a practical measure in the treatment of the condition, sedatives at night and stimulation in the morning, by whatever means at one's commands, whether by the use of drugs, by physiotherapeutic or by psychological measures, work happily in many instances.

Here I make no apology for the utilization of physical means in the treatment of what are commonly called mental diseases. Rest may change a mood from depression to the reverse. A chemical substance added to the chemistry of the body speeds up thought and increases the attitude towards life which we call *courage.*

GENERAL FORMULATION

From the standpoint here put forth, man is an organic fragment of an organic universe, and organic means, such as the chemicals we call *drugs* and the agents we call *physiotherapeutics,* are logically to be used and become psychological as well as physiological.

REACTION TO EXCITEMENT

The stimuli which fall upon the individual create in him a certain mental and physical state, which we call excitement; for example, sights, sounds, the presence of other people in crowds, in churches, in theatres, etc. To put it in simple phrasing — very complex groupings of stimuli bring about a tensed-up feeling, which is pleasurable in moderation and becomes one of the desired affects of life, but in excess produce a disorganization, a tremulous, painful, panicky state.

A long time ago, Lotze, in his great book, *The Micro-Cosmus,* pointed out that when fatigue and disorganization take place, the excitement created by stimuli spreads throughout the organism, giving an *en masse* reaction, instead of a strictly localized response. Thus, in a normal state, sharp sounds cause the turning of the head and eyes, but in the disorganized states, the whole body jumps in a disproportionate manner, which is painful to see and painful to feel. This disorganized reaction to excitment is common in the neuroses. It indicates that something has gone wrong with the mechanisms by which excitement is localized and kept from spreading throughout the organism, and it results in the shut-in life of the neurotic. It often happens that people, whom we call shut-in, are not really unsocial or introverted, but become shut-in because of the painful excitement created in them by others.

This increased excitement is often associated with over-rapid action of the heart, change in the facial expression, and the color of the skin. It is accompanied by tremor, and even by involuntary micturition and evacuation of the bowels. Thus, the over-reaction to excitement, which on the subjective side, is a painful, complex, emotional state, which brings with it fear and a tendency to flight, is on the physiological side a great disturber of the organism.

Since excitement is part of most affective states, a sort of basic component as it were, to which the added color of the specific emotional state acts mainly as a means of differentiation, this symptom is really basic in the disordered emotional symptomatology of the patient. When this symptom is unduly prominent, when the patient responds too vividly to noises, it is good physiology and good psychology to seclude him, and at the same time, to give him such sedatives as act as chemical shock absorbers. This liability to over-reaction is frequently associated with hyperactive reflexes and tremor during the excitement of the examination.

Disturbance of Appetite

A third basic symptom is the disappearance of or interference with the appetite. The symptoms may range all the way from finickiness, from the quickly obtained sense of fullness, to a complete anorexia, which, since it is greatest in the morning, is often associated with a sense of nausea at the sight and smell of food, and may go on to morning vomiting. In the young female, this interference with appetitie is often associated with interference with the menses, so that the combination of morning vomiting and amenorrhea may bring about the suspicion of pregnancy, and thus complicate the neuroses with secondary social and emotional situations of importance.

The very common phenomenon of loss of appetite in the morning, together with morning fatigue, which prevails in a large segment of the population, not held to be sick, in my opinion shows how wide-spread mild neurasthenic states are. In the majority of cases the interference with nutrition is but slight, since the patient eats out of a sense of duty to himself and out of habit. In the extreme cases, emaciation takes place, and this evolves on the physician the necessity for finding types of food which will be least repellent and most nutritious. It commonly happens that these patients are treated for stomach disorders. They are put on elaborate and unnecessary systems of dieting with a consequent heightening of fear and an increase in symptomatology.

The advice to eat what looks best to you, whether it is fried or broiled, and whatever its nutritious qualities may be, is wholesome advice in the case of the psychoneurotic with disturbed appetite. Artificial means for awakening the appetite become psychological means of great importance in proportion to their physiological working. Thus, alcohol is a good means of combating this group of symptoms.

As I am not here concerned with therapeutics except to demonstrate the physiological-psychological interweaving, I shall not consider other drugs used.

Disturbance of Sleep

Disturbed sleep* is a prime symptom of this type of neurosis and its physiology becomes all-important. Strangely enough, but little is known of sleep or its mechanism. If one followed the Freudians, it would seem that sleep is merely a way by which the subconscious gains dominance over the conscious, and its essential purpose to offer an outlet for the repressed complexes. We shall take a more physiological view of the situation. It is probable that consciousness is one of the most fatiguing of human functions; that the most any individual should stand of himself and the rest of the world is about sixteen hours a day. It is also probable that sleep

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*See Sleep in *Progress in Neurology* by Abraham Myerson, M.D., The N. E. Jr. of Medicine, Vol. 20 3 No. 24, Dec. 11, 1930 pp. 1205 ff.

is an active function, in which the mid-brain takes a prominent role. It seems also to be true that sleep is best achieved when it has not been put off too long; when the drowsy feeling has not been too seriously resisted; in short, when fatigue is not too great. In other words, it is a means of avoiding extreme fatigue rather than a means of cure.

It is very likely that the activities of the day prolonged into the night prevent good sleep; that civilization with its noises, its turning of night into day by virtue of its inventions and conventions, namely, that of sex life and the pleasure life are night life, interferes with sleep and the recuperation of the organism. Just as the appetite for food disappears, so the drowsy feeling which is the appetite for slumber disappears, and the patient, though tired and aching, feels no capacity for sleep.

The treatment of the insomnia is very difficult. Necessarily, such psychological measures as discussion, analysis of the situation, and the like are of value. I am frank to say I pin more faith in the use of the despised drugs than I do to anything else; only they must be given with an understanding of the physiology of the situation. They must be started early and in the usual case at least several hours before the time for sleep, so that some kind of drowsy feeling is experienced at the time of retirement to bed.

Moderate physical exercise, such as long walks, quietly undertaken in restful company, helps. Excitement should be avoided, especially of the sexual variety. Heated discussions, emotional plays, and books are taboo. It often happens that with the energetic use of sedatives properly administered that the *sleepless habit* the expectation of insomnia, is broken into and enough rest obtained. I am altogether out of sympathy with the notion that sleep is not essential; that if one lies in bed quietly enough, rest is obtained. Difficulties loom mountain high; emotions become doubly burdensome; thoughts increase in obsessiveness, if one lies awake longing vainly for relief.

Disturbance of Sexual Appetite and Power

Since the female may be passive in the sexual relationship, the main disorder of her sexual life lies in lowered desire, even in intense disgust, for the sexual act. This more often represents a change from the usual attitude than is realized, and because it creates difficulty with the husband, brings complicating factors of jealousy, unfaithfulness, and at best, unmerited reproach. It is certain that the sexual appetite in woman is very closely associated with her sense of vigor or freshness, and that with the disappearance of energy-feeling, the excitement of the sexual act, even when there still remains desire, becomes disgusting, and instead of leaving the normal pleasant relaxation, is followed by the post-coital neurasthenia, which is so common in those of litte energy reserve.

At this point it is pertinent to remark that disorders of menstruation are very common in the neuroses and especially in the depressive psychoses. Scanty menstruation and even amenorrhea eloquently proclaim the physiological reverberation of the mental states.

In the psychoneurotic male the sexual situation becomes somewhat more serious because there is interference not only with desire but with potency. Any threat to potency endangers the ego valuation of the individual — to link up a physiological phenomenon with a highly evolved and complex psychological state. Even the most intellectual of men are not free from the domination of the ideal of virility, which has a curious basis in their erectile tissue. Anxiety and brooding, apprehension of failure, add their secondary loss to the situation. This constitutes a situation where an explanation, which of course is a definite, psychological matter, is of some value. A counseling to be patient and to avoid undue effort is a therapeutic aid. But no direct attack on this loss of virility is of much value. The building up of energy reserve is of prime importance.

I do not mean to imply that all loss in the direction of sexual disturbance is due to a neurosis or to a mental state, nor that every neurosis is associated with this loss. There is a preliminary phase of the neurosis where excitement is most deeply felt that there is for a time an increase in sexual life, which is often mistaken as a cause of the subsequent potency failure. Nor is the potency failure necessarily complete. It often manifests itself by *ejaculatio praecox,* which becomes often more distressing than a complete loss.

MISCELLANEOUS DISTURBANCES:

One may now consider the physiological alteration in micturition. Frequency, to an extreme degree, is a common association of the anxiety states and of all the varieties of the neuroses, both in men and women. It even reaches the stage where there is neither rest, day or night as a result, and the whole of life becomes obsessively related to the genito-urinary tract, especially in association with the paraesthesiae later to be described. The secondary fears aroused by this condition, (and this is true of all the physiological reverberations), the mistaken diagnoses of physicians, the concentration upon urinary sedatives, crystological examinations, etc., increase the disorder. In some cases, it works like magic to start a time-clock schedule for bladder evacuation, with gradually increasing periods between evacuations.

This paper would lengthen into a monograph if one considered in detail all the physical alterations: the tremors, the twitchings, which can actually be seen, and which in cases of several medical students, whom I have known, have awakened in them the suspicion that they suffered from *progressive muscular atrophy.* The alterations in the heart rhythm, the occasional up and down of the blood pressure, constitute a fascinating chapter of physiological study, which deserves far more research attention than it has received.

It must be emphasized that each individual is a sort of specialist in the avenue which his aberrant emotional discharge takes. Some people are so constituted from a vaso-visceral, thalamic, motor standpoint that fear creates nausea and vomiting; others, so that it takes the form of the sexual orgasm; still others, in disturbances of consciousness leading to fainting, to syncope. The chronic blushers have a vasomotor system into which emotion flows. Just as there are individual reactions to articles of diet, so there are individual reactions to emotional disturbances.

THE PARAESTHESIAE

Amongst the most interesting and the most important of the somatic disturbances are those subjective phenomena, the paraesthesiae. These constitute the symptoms for which the patient most frequently consults the doctor, and they run a wide range of symptoms, which mistakenly receive the attention of every specialist in medicine

There is, first, the tight, pressure-like feeling in the head, for which eyes are refracted, septums straightened, teeth removed, etc. As a matter of fact, when one inquires closely into this type of paraesthesia one finds that pressure feeling, disagreeable sensation, snapping and clocking sounds, even a roaring in the head — constitute paraesthesiae rather than true headache. An interesting symptom often complained of is the hollow head feeling, with the patient's own voice reverberating in a manner quite distressing to him.

The paraesthesiae of the gastro-intestinal tract range from the burning, dry feelings in the mouth, which are particularly associated with anxiety states in the middle period of life, to the curious bitter and gassy feelings which are so often complained of. The familiar *globus hystericus* is much more common in the depressed neurasthenic states than it is in true hysteria. This *globus hystericus* is often mobile in its location, and becomes the globus *epigastricus, hypochondricus,* etc. Most often the attempt is made to exercise it by dieting, but it has often been operated on and is a true phantom tumor.

The paraesthesiae of the arms and legs include a great variety of symptoms, from subjective numbness through prickly feelings, pins and needles, burning sensations, cold feelings, to a medley of experiences which make these members ever present in the consciousness and obsessive members of the body. Neuritis is a common diagnosis. Naturally and properly with these sensations the medical attention is shifted to organic neurological disturbances, such as combined system disease, tables, etc.

Paraesthesiae of the genito-urinary tract are especially troublesome in the middle-aged female. Here they take the form of itching, burning sensations, which give rise to mistaken local diagnoses. A careful clinical history would show that there is disturbance in all the great organic functions of the organism; that this paraesthesiae tends to come and go, and moreover, that similar paraesthesiae are found elsewhere and, practically speaking, everywhere throughout the body.

The paraesthesiae of the organs of special senses are very common. Thus, for the eyes, one finds the blurred feeling, the cloudy vision, the spots before the eyes, the sparks that float off to one side, especially the painful weary feeling often associated with a sense of burning. Clicking sounds, roaring noises, sudden alterations in the intensity of sounds are frequent paraesthesiae of the sense of hearing. All kinds of anomalies in sensation are linked up with smell and especially with taste. Everything tastes sour, bitter, or flat. From hyperaesthesia to anaesthesia is the range of these alterations. It would be sad to relate how many tons of tonsils and how many carloads of teeth have been removed for these paraesthesiae.

The Affective Stream, A Hypothesis

In formulating in my own mind the nature of these paraesthesiae, I have made a comparison with the changes which occur in the organic neurological disturbances of sensation.

There is an afferent flow from the various organs of the body, the *coenesthesia*. This stream normally is but vaguely felt and in its totality gives us our mood of energy and individuality. Some of this affective flow is very closely linked up with individuality and personality, as for example, that from the eyes, the neck, the face and head, generally speaking. As a working hypothesis, since there can be no proof of the matter at the present time, I postulate that in the neuroses, this affective stream from all parts is disturbed in three directions: — *hypercoenesthesia*, *paracoenesthesia*, and *hypocoenesthesia*.

Unreality, Inversion, Etc.

The feeling of unreality which so often plagues the patient with the neurosis is related, I believe, to the changed affective stream, so that he feels different to himself, and the outer world is differently experienced. His hypochondriacism, which is so often attacked as primary, is in my belief mainly secondary. He focuses his attention upon his heart, head, and genitals, his stomach and bowels, largely because these parts feel different to him. The reason the patient resists persuasion and the statement that he is "all right" is precisely the testimony of this altered affective stream, which is more immediate and more impelling than the words of the doctor, even though these have temporary value.

In other words, *the neurasthenic is not sick because he becomes inverted, but inverted because he becomes sick*. To substantiate this, it will be found in the history of the neurosis that the sufferer is quite extroverted when he is well, and that there is no real relationship of his symptoms to the previous direction of attention.

It is probable that the sense of fatigue is related to alteration in this affective stream, and as a speculative theory, one might assume that the whole disorder of lost desire, injured ambition, depressed and irritable mood, disordered sleep and appetite, reaction to excitement and changed attitude towards reality, so-called, is internal in its origin.

All this does not exclude the conclusion that the cause may relate to the emotional or other psychological environment of the individual. My point is that wherever you touch psychology, you touch physiology; that the fear which becomes remembered in relationship to the situation which evoked it, is at the same time a disorganizer of organic functions; that the chain of events which may be along the line of association of ideas, emotional linkings-up, dreams, complexes, etc. has, as well, a more measurable organic chain. Accepting the theory that a complex exists, its main disturbing effects may be in what it does to appetite, sleep, and the affective stream of impulses from the organs.

It is interesting to watch in the case of some individuals how a paraesthesiae becomes a fixed fear and then later a delusion. The patient will start off with a queer sensation in his "stomach". As he fixes his attention upon this, and as he becomes once bombarded by the popular health education and by the gossipy health speculations of his neighbors, he develops the fear that he has ulcer or cancer.

As the neurosis passes over into a depressed psychosis and the paraesthesiae alters in its quality, he has "lost his stomach; there is nothing inside of him."

CONCLUSION

It is my particular prejudice that the psychological attack lends itself more to extraordinary, top-heavy, speculative metapsychiatry than does the physiological approach, even though it is valid and necessary.

There are plenty of physiological researches to be carried out. The study of fatigue by the laboratory methods, utilized in the study of the performance of athletes, which involves the manufacture of lactic acid, the oxygen utilization in the muscles, and so forth, might well be utilized in the study of the fatigue of the psychoneuroses and even the depressive psychoses. The loss of appetite has not been studied by the methods of Carlson.

Just as the introduction of the vibration tests threw new light on the symptoms of organic neurology, so there might well be evolved some new sensation test, perhaps based on tickling or the reaction to electricity. Our present tests for sensation are exceedingly crude. The urgency of micturition has not received consecutive or sustained cystic study. It is idle to say that these symptoms have no foundations in organic alterations, when even the finer tests which we have at present are not used.

To sum the matter up, the physiological approach to the neuroses does not exclude nor minimize the importance of a complete understanding of the psychological life of the individual. I do state, however, that there is always the danger, in studying the mental events, of ascribing causation to them; that the prejudices, emotional experiences, metaphysical and philosophical bias, and the social experiences of the physician creep in to render the analysis quite subjective and, therefore, non-scientific. To emphasize the physical alterations may seem reactionary, but I believe that it holds possibilities of scientific discoveries of great importance.

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STUDIES OF THE BIOCHEMISTRY OF THE BRAIN BLOOD BY INTERNAL JUGULAR PUNCTURE

By

Abraham Myerson, M.D., Director of Research, Boston State Hospital, Professor of Neurology, Tufts Medical School

and

Roy D. Halloran, M.D., Research Associate, Boston State Hospital, Assistant to the Commissioner, Department of Mental Diseases, Instructor in Psychiatry, Tufts' Medical School

In 1927 we described a new method for studying the brain metabolism in health and disease by puncture of the internal jugular vein. To this we added a but very little used technique, the puncture of the carotid artery, being thus enabled to investigate the changes that take place in the chemistry of the blood as it enters and leaves the brain. It seemed logical that a study of the blood directly before entering and immediately after leaving the brain, before admixture with the blood from other parts of the body, might give information as to the brain activity within the limits of present biochemical technique. Because of the comparatively brief period of the method used, we limited ourselves chiefly to a demonstration of its safety and practicability. We propose to present at this time some results of our studies in certain mental conditions and without much normal control, not as evidence of pathology, but as a factual presentation of certain phases of brain activity.

Anatomy and Technique

Between the mastoid tip and the angle and vertical ramus of the jaw the internal jugular vein and internal carotid artery lie in close proximity, the artery mesial to the vein on about the same plane. In this location the internal jugular vein proceeds directly downward from the jugular foramen without tributaries and contains unmixed venous blood from the brain. Undoubtedly the blood at this point carries the products of brain metabolism with the exception of those obtained from the cerebrospinal fluid examination. The internal jugular vein and internal carotid artery continue down the neck in this relation under the anterior border of the sternomastoid muscle to a point slightly below the level of the hyoid bone where the common carotid branches into the internal and external carotid arteries. The pneumogastric nerve lies posterior to the vessels and between them. Other nerves, the 9th and 12th, pass between the vessels. These are apparently pushed aside by the puncture for no evidence of nerve injury has been observed. The walls of the vein and artery show no permanent changes or injuries, as we have observed by open inspection.

Considerable attention has been given to the development of a smooth-working technique. This involves the patient, the operators, and their assistants, the nurse, and the apparatus. Coordination between these factors plays an important part in the success of each procedure.

Every patient is examined while fasting. The same aseptic precautions are followed throughout as in any surgical procedure. The patient lies on his back. The skin of the tip of the ear, jaw, mastoid region and upper neck is iodized. A 2 percent novocaine solution is infiltrated to the depth of about one inch just below the mastoid tip and a more superficial injection is made over the pulsation of the common carotid artery. We have never encountered any evidence of vagus nerve involvement by the anesthetic. The nurse holds the patient's head turned as far as possible toward the shoulder opposite the vessel to be punctured; that is, the patient looks to the left if the right vessels are to be entered and to the right for the use of the left vessels. A 20 c.c. syringe with a No. 19 or No. 20 gauge needle about 1½ inches long attached has been found the most convenient. To prevent clotting, which frequently occurs before the blood can be transferred to a glass collecting tube, a saturated solution of sodium oxalate is dropped into the syringe barrel before the puncture in the proportion of one drop to 5 cc. of blood. All blood specimens are oxalated except those to be tested for calcium. Because of the necessity of excluding air from the blood for carbon dioxide, oxygen and chloride determinations, 2 or 3 c.c. of paraffin oil are placed in the barrel before the puncture, and the blood obtained is introduced into a glass tube under 8 c.c. of oil, after the usual method for the study of the gases of the blood.

The internal jugular vein is punctured by introducing the needle perpendicularly and with a firm and even thrust slightly below and mesial to the tip of the mastoid process along the anterior margin of the sternomastoid muscle. The common carotid artery is punctured over its pulsation below the level of the hyoid bone. In this procedure the needle is inserted at a slightly acute angle toward the head with the barrel parallel to the course of the vessel. It is possible to enter the internal carotid artery by the same technique used in the case of the jugular puncture by moving the needle about 1 c.c. mesial to the point of entering of the vein and slightly lower on the neck. This puncture is seldom used because it is more difficult and the blood in the common carotid artery is the same in composition as that in the internal carotid. In every instance the needle is usually introduced almost to its entire length and is gradually withdrawn with gentle suction until the blood flows into the barrel. When either the internal or common carotid artery is entered, the blood will pulsate into the syringe, lifting the piston. This characteristic and the color of the arterial blood help to distinguish it from venous.

Several specimens, both oxalated and non-oxalated, may be obtained by quickly exchanging a full syringe for an empty one while the blood is still flowing. We have filled as many as three syringes with a single puncture. Occasionally a slight hematoma forms after the removal of the needle. This may be reduced by making pressure over the point of puncture.

There have been no perceptible reactions to the withdrawal of about 70 c.c. of blood from each of the three vessels used in the initial tests, other than a slight temporary pallor. In over three years' experience no unfavorable reaction to these punctures has occurred. There is not anywhere near the resulting discomfort that there is following lumbar puncture. We believe the technique to be entirely free from danger to the patient, providing the usual aseptic precautions are used. It may be stated that we have punctured many patients on several occasions, often in a period of only a week apart, without any perceptible injuries to the vessel or the patient.

We have compared the blood going to and from the brain with the blood going to and from the arm. The arm was selected as the basis of comparison because it is the basilic vein which is ordinarily used for biochemical studies. Thus, we have been able to make a comparison of the difference in chemical composition of the carotid artery and jugular vein blood and a comparison of the difference in the chemical composition of the brachial artery and basilic vein blood. Thus, brain consumption or contribution of chemical substances might be compared with arm consumption or contribution of the same chemical substances.

Our technique in the time relationship of these four punctures has varied from time to time. We have sometimes taken the two arteries at the same time, followed by the two punctures being made on the two veins at the same time. That is, one operator obtains the blood from the carotid artery, while the other operator obtains it at the same time from the brachial artery. When these bloods have been turned over in the proper way to the chemist, then one operator obtains the internal jugular vein blood, while the other simultaneously obtains the basilic vein blood. This technique carried out perfectly is rather difficult, and we have, in the main, contented ourselves with obtaining first, the blood from the carotid artery and immediately following it, the second operator obtaining the blood from the internal jugular vein; then the blood from the brachial artery is obtained followed by obtaining the blood from the basilic vein. There does not seem to be any difference in results between the two techniques.

We have divided up our cases into those which we call perfect or very good punctures, in which, for example, every vessel was entered in one attempt and no unnecessary manipulation or pain occurred; fair punctures are those in which one or another vessel had to be entered twice but in which there occurred no real delay and the patient was not greatly disturbed; poor punctures are those in which there has been great delay in obtaining blood and in which the patient struggled or was greatly upset by the procedure.

Observations. — Because of the time consuming nature of chemical investigation and because we had a part time organization until very recently, we carried on what we called exploratory examinations of certain factors of blood study, and when we found no essential difference between the bloods in the brain and the arm regions went on to another investigation.

Thus, we obtained negative results in that there was no essential difference between the blood going to and from the brain and the blood going to and from the arm in the following studies.

A study of the blood of the carotid artery, of the internal jugular vein, of the brachial artery, and of the basilic vein in a small number of cases showed no essential variation in any of these samples, in specific gravity.

Sedimentation rate, studied by the Rourke-Ernstene method showed no difference in the sedimentation rate of the blood of these four vessels. The study of the urea nitrogen content made by the Van Slyke method showed no variation beyond the range of accuracy of the method in the blood of these four vessels. This is also true of the non-protein nitrogen. Non-protein nitrogen, phosphate, calcium, and chlorides (Table VII) showed no significant variations.

Sugar. — Interesting results were obtained in the study of the sugar content of the blood of these four vessels. In order to present the results of this study, we have divided up in the following Tables I, II, III our results in perfect punctures, good punctures, and poor punctures. It will be seen that in the perfect punctures, there is, first, a higher sugar content of the carotid artery blood as compared with the internal jugular vein blood, and likewise the well-known difference in the sugar content of the brachial artery blood and the basilic vein blood. In other words, just as sugar disappears in the transit through the muscles of the arm, so it disappears in the transit through the brain. It will also be seen that by far in the greater number of cases, carotid minus jugular, or what we call brain consumption of sugar although we have no knowledge whatever of what happens to this sugar in the brain, is somewhat greater than brachial minus basilic or arm consumption.

Our work in this respect has been corroborated by an unpublished study made by Dr. William G. Lennox, In the good punctures, so-called, in which more difficulty occurred, this difference is not so striking, and there are more cases in which the arm consumption is as great, though seldom greater, as the brain consumption. In the poor punctures, while it still is definite that there is a brain consumption, the relation between it and the arm consumption is not definite. This leads us to believe that under conditions of perfect technique, in the main, or at least in the types of cases we studied and in those cases studied by Dr. Lennox, what we call brain consumption of sugar is greater than that of arm consumption. Of course, there are factors which we have not been able to study, such as the rate of brain blood circulation and so forth.

We have only recently started a study of the gaseous content of the brain, namely, the oxygen content, CO_2 content, oxygen saturation, and oxygen capacity. We have used the improved Van Slyke method for this study and have been, we believe, faithful in every step of the technique from the obtaining of the blood under air-free conditions to the details of the chemical technique itself.

Table VI shows first, that oxygen disappears in the transit through the brain as it disappears in the transit through the arm; second, that CO_2 is increased by the transit through the brain as it is increased by the transit through the arm. In other words, in relationship to the use of oxygen and the formation of CO_2, the brain behaves as would be expected, and as all living tissues do, though this has not been demonstrable. The chemical activity of the brain in gaseous consumption and production is essentially similar to that of the arm. In some of our cases there is a striking difference, which we cannot explain, between the brain consumption of oxygen and production of CO_2 and the arm consumption and production of oxygen and CO_2. In some cases the brain uses more oxygen and produces more CO_2; in others, the condition is reversed. The cases are too few in number to be more than chance differences. It will be noted in these tables that the sugar utilization follows the rule that the brain uses up more sugar (or that more sugar disappears in the transit through the brain) than in the arm.

Conclusions

1. The introduction of the internal jugular method has made it possible to study the brain metabolism in a direct way, especially is this true, if it is combined as in our study with the puncture of the carotid artery and, for comparison, with the arm by a puncture of the brachial artery and basilic vein.
2. This technique is entirely safe. . In over two years of experience on a large number of cases, our patients have experienced no untoward results, and there has been no damage to the vessels in question.
3. The specific gravity, sedimentation rate, urea nitrogen, non-protein nitrogen, phosphates, calcium, and chloride content of the blood in the internal jugular vein carotid artery, brachial artery, and basilic vein is substantially the same.
4. Sugar disappears in the transit between the carotid artery and the internal jugular vein in much the same way as sugar disappears in the transit between the brachial artery and the basilic vein. What we here call brain consumption of sugar, without specifying what is meant by this term or implying anything as to the nature of the process, is quantitatively as great and, in the main we believe, tends to be greater than arm consumption of sugar.
5. Oxygen disappears in the transit between the carotid artery and the internal jugular vein and CO_2 content increases in the same transit. We have not found any significant difference in the few cases that we have yet studied between the brain consumption of oxygen and production of CO_2 and the arm production and consumption of CO_2.

TABLE I. *Blood Sugars. Perfect Punctures.* (*M*g. per 100 c.c.)
(Folin-Wu Method)

Patient	Diagnosis	Carotid artery (C)	Int. jug. vein (J)	Brachial artery (Br.)	Basilic vein (Ba.)	Simultaneous punctures **	Brain — Arm Cons. Cons. (C-J)–(Br.-Ba.)
J.H.	G.P.	108	96	107	99	+	12— 8= 4
B.M.	G.P.	93	85	92	88	+	8— 4= 4
J.M.	G.P.	79	70	79	73	+	9— 6= 3
H.L. (1)	G.P.	83	70	84	72	+	13—12= 1
(2)	G.P.	98	88	94	90	+	10— 4= 6
D.S. (1)	G.P.	90	80	87	82	—	10— 5= 5
(2)	G.P.	100	87	96	87	—	13— 9= 4
W.R.	G.P.	109	88	104	97	—	11— 7= 4
B.M.	G.P.	103	85	94	89	—	18— 5=13
W.J.	G.P.	80	67	78	72	—	13— 6= 7
H.C.	G.P.	96	84	96	90	—	12— 6= 6
W.H.	G.P.*	213	189	199	186	+	24—13=11
W.T. (2)	G.P.	...	83	98	90	+	11— 6= 5
T.M. (2)	G.P.	88	74	87	80	+	14— 7= 7
S.S. (1)	D.P.	104	77	103	85	+	27—18= 9
S.McD.	D.P.	108	84	100	93	+	24— 7=17
H.K.	D.P.	105	93	105	98	+	12— 7= 5
W.F.	D.P.	97	76	96	82	+	21—14= 7
N.C.	D.P.	75	67	76	70	+	8— 6= 2
C.M.	D.P.	90	77	91	85	—	13— 6= 7
W.K. (1)	D.P.	127	106	121	109	—	21—12= 9
(2)	D.P.	102	88	100	89	—	14—11= 3
H.H. (1)	D.P.	85	79	82	80	—	6— 2= 4
(2)	D.P.	...	99	103	100	—	
W.H.	D.P.	84	79	83	73	—	5—10=—5
F.E.	D.P.	77	66	76	72	—	11— 4= 7
M.D.	D.P.	91	76	85	79	—	15— 6= 9
H.B.	D.P.	100	77	86	81	—	23— 5=18
R.A.	D.P.	82	68	78	72	—	14— 6= 8
J.A. (1)	D.P.	89	75	83	77	—	14— 6= 8
(2)	D.P.	88	79	89	84	—	9— 5= 4
H.C. (fem.)	D.P.	87	76	85	79	+	9— 6=13
A.B. (fem.)	D.P.	84	74	82	75	+	10— 7= 3
T.H. (2)	D.P.	85	76	84	79	+	9— 5= 4
T.O'B. (2)	D.P.	94	85	95	89	+	9— 6= 3
I.S. (fem.)	D.P.	83	76	83	79	+	7— 4= 3
D.Z. (fem.)	D.P.	85	74	85	81	+	9— 4= 5
H.B.	D.P.	95	85	94	89	+	10— 5= 5
E.B.	D.P.	92	80	92	84	+	12— 8= 4
W.K.	D.P.	96	79	...	90	+	
M.Mc.	D.P.	...	107	117	113	+	
S.S.	D.P.	...	79	91	83	+	
T.M.	D.P.	...	74	89	77	+	
H.B.	D.P.	...	75	90	83	+	
T.O'B.	D.P.	...	77	87	83	+	
W.B.	D.P.	...	84	86	80	+	

*Diabetic   Cons. — Consumption.   **C & Br., J & Ba. = +; C& J, Br. & Ba. = —

TABLE II. *Blood Sugars. Fair Punctures.* (Mg. per 100 c.c.) (Folin-Wu Method)

Patients	Diagnosis	Carotid artery (C)	Int. jug. vein (J)	Brachial artery (Br.)	Basilic vein (Ba.)	Silmutaneous punctures**	Brain — Arm Cons. Cons. (C-J)-(Br.-Ba.)
W.T. (1)	G.P.	98	84	100	89 2P.	—	14—11= 3
F.M.	G.P.	90	76	86	80	—	14— 6= 8
W.M.	G.P.	83 2P.	74	80	76	—	9— 4= 5
R.F.	G.P.	85	75	84 2P.	77	—	10— 7= 3
W.B. (1)	G.P.	99 2P.	90	94	90	—	9— 4= 5
(2)	G.P.	....	78	80	84	+	
R.R.	G.P.	87 3P.	74	87 2P.	80	—	13— 7= 6
T.M. (1)	G.P.	83	70	76 2P.	75	—	13— 1=12
L.B.	G.P.	104	91	104 2P.	96	—	13— 8= 5
J.McL..	G.P.	85	74	82 2P.	79	—	11— 3= 8
E.W.	D.P.	95	64	91 3P.	68	+	35—23=12
T.O'B. (1)	D.P.	94	85 3P.	90	88	+	9— 2= 7
A.F. (1)	D.P.	92	74 3P.	93	79	+	18—14= 4
(2)	D.P.	89	81	89	79	+	8—10=-2
J.McG..	D.P.	95	73 3P.	96	80	+	22—16= 6
W.F.	D.P.	83	76 3P.	80	74	+	7— 6= 1
D.F. (1)	D.P.	85	75 3P.	82	69	+	10—13=-3
(2)	D.P.	95	84 2P.	92	84	—	11— 8= 3
(3)	D.P.	81 3P.	68	78	73	—	13— 5= 8
R.B. (1)	D.P.	115	93	112	92 2P.	+	22—20= 2
(2)	D.P.	109	101	108	105 2P.	—	8— 3= 5
F.H.	D.P.	86	74	86 2P.	84	—	12— 2=10
T.C.	D.P.	86 3P.	79	85	82	—	7— 3= 4
M.D. (1)	D.P.	94 2P.	84	94 2P.	85	—	10— 9= 1
(2)	D.P.	92	75 3P.	93	79	—	17—14= 3
(3)	D.P.	92	75 3P.	93	79	—	17—14= 3
R.S. (1)	D.P.	78 3P.	73 2P.	78	74	—	5— 4= 1
(2)	D.P.	97 2P.	85	100	87	—	12—13= 1
H.B.	D.P.	105	91	105 2P.	92 2P.	—	14—13= 1
M.McL.	D.P.	98	91 3P.	97	92	—	7— 5= 2
E.B.(1).	D.P.	97	87 2P.	95	89	—	10— 6= 4
(2)	D.P.	....	80	84	83 2P.	+	
M.G.	D.P.	92 2P.	86 2P.	89	83	—	6— 6= 0
S.S. (2).	D.P.	...	81 2P.	87	84	+	

P. — Punctures. **C & Br., J & Ba. = +; C & J. Br. & Ba. = —.

TABLE III. *Blood Sugars. Poor Punctures.* (Mg. per 100 c.c.) (Folin-Wu Method)

Patient	Diagnosis	Carotid artery (C)	Int. jug. vein (J)	Brachial artery (Br.)	Basilic vein (Ba.)	Simultaneous punctures**	Brain — Arm Cons. Cons. (C-J)-(Br.-Ba.)
W.M.	G.P.	97 2P.	81	98 Di.	81	+	16—17=-1
J.M.	G.P.	103 3P.	75	109 3P.	82 2P.	+	28—27= 1
G.F. .	G.P.	100	91	105 Di.	93	+	9—12=-3
M.H.	G.P.	96	88	98 3P.	99 15ML	+	8— 1= 7
W.B..	G.P.	80 2P.	68	81 3P.	77 2P.	—	12— 4= 8
H.C. .	G.P.	85 3P.	68	83 3P.	68 2P.	—	17—15= 2
R.B. .	G.P.	89 3P.	78	82 3P.	78 3P.	—	11— 4= 7
R.R. .	G.P.	94 4P.	92 3P.	92 3P.	83 3P.	—	2— 9=-7
J.O. .	G.P.	88 15ML	72	84	78 5ML	—	16— 6=10
A.DeA.	G.P.	235	227	235 2P.	250 Di.	—	8—15=-7
M.D.	D.P.	92	75 3P.	93	79	+	17—14= 3
W.G..	D.P.	96	76	114 Di.	82	+	20—32=-12
A.McN.	D.P.	106	83 4P.	98 4P.	83	+	23—15= 8
T.H. (1)	D.P.	...	67 2P.	80 3P.	72 2P.		
A.Fr.	D.P.	...	70 2P.	79 2P.	74 2P.		
W.K.	D.P.	102 2P.	88 2P.	100 2P.	89 2P.	—	14—11= 3

P. — Punctures. Di. — Difficult. M.L. — Minutes Later.
**C & Br., J & Ba. = +, C & J; Br. & Ba. = —.

TABLE IV. *Blood Sugars.* (Mg. per 100 c.c.)
(Folin-Wu Method)

Patient	Diagnosis	Carotid Artery (C)	Internal Jugular Vein (J)	Brachial Artery (Br.)	Basilic Vein (Ba.)
J.C. (1)	Epileptic, Clouded State	110	100	...	100
J.C. (2)	Epileptic, Clear State	110	80	...	94
H.C.	Epileptic	98	73	..	89
Kev.	Epileptic	90	84	...	89
Wal.	Epileptic	93	81	...	90

TABLE V. *Blood Sugars.* (Mg. per 100 c.c.)
(Folin-Wu Method)

Name	Diagnosis	Carotid Artery (C)	Internal Jugular Vein (J)	Brachial Artery (Br.)	Basilic Vein (Ba.)
D.S.	Normal	105	91	...	105
J.F.	Normal	112	97	...	104
W.N..	Normal	104	71	...	84
G.D.	Normal	94	83	...	90
J.C.	Normal	112	111	...	107

TABLE VI. *Blood Carbon Dioxides, Oxygens, and Sugars*

Sugar = Mg. per 100 c.c.
CO_2, O_2 = percent
Sugar lowest }
CO_2 highest }
O_2sat. lowest }

Normals = (fasting)

Sugar cont.	Art.	80–110
	Ven.	70–100
CO_2 cont.	Art.	40–50%
	Ven.	50–60%
O_2 sat.	Art.	94–98%
	Ven.	65–80%

VAN SLYKE METHOD

Patient	Diagnosis	Test	Carotid Artery	Brachial Artery	Int. Jug. Vein	Basilic Vein	Remarks
W.G.	D.P.	Sugar					Patient quiet, good punctures CO_2 cont. normal, O_2 sat. low in arterial blood normal in venous
		CO_2 cont.	47.46	47.51	57.41	55.41	
		O_2 cont.	17.81	18.05	13.05	14.71	
		O_2 cap.	22.08	22.08	22.08	22.08	
		O_2 sat.	81.00	81.00	58.00	66.00	
A.B.	D.P.	Sugar	84.00	82.00	74.00	75.00	Patient quiet, good punctures. CO_2 cont. normal, O_2 sat. slightly low
		CO_2 cont.	48 40	48.57	54.68	53.08	
		O_2 cont.	18.43	18.13	12.75	12.87	
		O_2 cap.	19.99	19.99	19.99	19.99	
		O_2 sat.	91.00	91.00	63.00	63.00	
H.C.	D.P.	Sugar	87.00	85.00	76.00	89.00	Patient excited good punctures CO_2 cont. normal O_2 sat. low in all but basilic vein O_2 cap. low throughout
		CO_2 cont.	51.23	51.05	58.97	54.63	
		O_2 cont.	12.01	11.96	8.07	10.17	
		O_2 cap.	14.17	14.17	14.17	14.17	
		O_2 sat.	84.00	84.00	56.00	71.00	
D.Z.	D.P.	Sugar	85.00	85.00	74.00	81.00	Patient quiet, good punctures CO_2 cont. low in basilic vein, normal in others O_2 sat. low in arterial blood, normal in venous blood
		CO_2 cont.	43.64	42.98	49.75	46.20	
		O_2 cont.	18.66	18.01	13.74	15.10	
		O_2 cap.	21.02	21.02	21.02	21.02	
		O_2 sat.	88.00	85.00	65.00	71.00	
H.B.	D.P.	Sugar	95.00	94.00	84.00	89.00	Patient quiet, good punctures CO_2 cont. normal, O_2 sat. normal.
		CO_2 cont.	53.85	53.95	62.83	58.45	
		O_2 cont.	20.49	20.62	13.28	17.24	
		O_2 cap.	21.79	21.79	21.79	21.79	
		O_2 sat.	94.00	94.00	61.00	79.00	
H B 2	D.P.	Sugar		94.00	85.00	86.00	Patient quiet, good punctures CO_2 cont. normal O_2 sat. normal
		CO_2 cont.		49.90	59.10	58.38	
		O_2 cont		19.91	11.33	11.95	
		O_2 cap.		20.49	20.49	20.49	
		O_2 sat.		97.00	55.00	58.00	
W.K.	D.P.	Sugar		96.00	77.00	90.00	Patient quiet, good punctures. CO_2 cont. normal, O_2 sat. normal. O_2 cap. low throughout
		CO_2 cont.		49.65	56.02	54.44	
		O_2 cont.		19.12	11.24	12.20	
		O_2 cap.		19.38	19.38	19.38	
		O_2 sat.		98.00	57.00	63.00	
M.McL.	D.P.	Sugar		117.00	107.00	113.00	Patient quiet, good punctures CO_2 cont. normal, O_2 sat. normal. O_2 cap. low throughout
		CO_2 cont.		45.96	52.56	49.53	
		O_2 cont.		19.20	12.01	17.23	
		O_2 cap.		19.47	19.47	19.47	
		O_2 sat.		98.00	62.00	88.00	
S.S.	D.P.	Sugar		87.00	81.00	84.00	Patient quiet, good punctures CO_2 cont. normal, O_2 sat. normal in arterial blood
		CO_2 cont.		42.69	54.12	50.01	
		O_2 cont.		19.92	10.47	11.79	
		O_2 cap.		20.28	20.28	20.28	
		O_2 sat.		98.00	51.00	58.00	
T.M.	G.P.	Sugar		87.00	74.00	80.00	Patient quiet, good punctures CO_2 cont. normal, O_2 sat. slightly low O_2 cap. low throughout
		CO_2 cont.		46.93	56.30	52.82	
		O_2 cont.		18.24	11.37	11.59	
		O_2 cap.		19.82	19.82	19.82	
		O_2 sat.		92.00	57.00	58.00	
H.B.	D.P.	Sugar		105.00	91.00	92.00	Patient quiet, good punctures CO_2 cont. normal, O_2 sat. low in all but basilic vein
		CO_2 cont.		49.93	58.61	54.07	
		O_2 cont.		18.39	11.29	14.90	
		O_2 cap.		20.49	20.49	20.49	
		O_2 sat.		89.00	54.00	72.00	
A.F.	D.P.	Sugar		79.00	70.00	74.00	Patient quiet, good punctures CO_2 cont. normal, O_2 sat. normal in all but arterial blood O_2 cap. low throughout
		CO_2 cont.		52.63	56.39	56.94	
		O_2 cont.		11.57	10.00	10.79	
		O_2 cap.		16.14	16.14	16.14	
		O_2 sat.		71.00	61.00	67.00	

TABLE VI. *Blood Carbon Dioxides, Oxygens, and Sugars* — Continued

Patients	Diagnosis	Test	Carotid Artery	Brachial Artery	Int. Jug. Vein	Basilic Vein	Remarks
T.H.	D.P.	CO_2 cont.	56.27	56.20		62.48	Patient quiet, jugular punctures unsuccessful. CO_2 cont. increased O_2 sat. low in arterial blood
		O_2 cont.	17.75	17.60		14.15	
		O_2 cap.	21.22	21.22		21.22	
		O_2 sat.	84.00	83.00		66.00	
W.B.	G.P.	Sugar		86.00	84.00	80.00	Patient quiet, good punctures CO_2 cont. normal, O_2 sat. low in all but basilic vein O_2 cap. low throughout
		CO_2 cont.		49.28	55.22	52.14	
		O_2 cont.		15.63	10.27	12.94	
		O_2 cap.		17.41	17.41	17.41	
		O_2 sat.		90.00	59.00	74.00	
E.B.	D.P.	Sugar	92.00	92.00	80.00	84.00	Patient quiet, good punctures CO_2 cont. normal, O_2 sat. low in all but basilic vein
		CO_2 cont.	52.06	51.86	57.02	57.02	
		O_2 cont.	18.71	18.81	13.22	15.45	
		O_2 cap.	22.41	22.41	22.41	22.41	
		O_2 sat.	82.00	83.00	58.00	69.00	
I.S.	D.P.	Sugar		83.00	76.00	79.00	Patient excited, good punctures CO_2 cont. slightly high in all but basilic vein O_2 sat. low. O_2 cap. low throughout
		CO_2 cont.		55.65	61.62	57.41	
		O_2 cont.		13.13	7.72	9.71	
		O_2 cap.		16.54	16.54	16.54	
		O_2 sat.		79.00	46.00	59.00	
W.B.	D.P.	Sugar		84.00	78.00	80.00	Patient quiet, good punctures CO_2 cont. normal O_2 sat. low O_2 cap. low throughout
		CO_2 cont.		50.43	54.38	57.45	
		O_2 cont.		16.02	12.68	7.43	
		O_2 cap.		19.54	19.54	19.54	
		O_2 sat.		81.00	64.00	38.00	
H.H.	D.P.	Sugar		103.00	99.00	100.00	Patient quiet, good punctures CO_2 cont. normal, O_2 sat. normal
		CO_2 cont.		51.17	56.09	56.35	
		O_2 cont.		21.27	17.74	17.69	
		O_2 cap.		22.78	22.78	22.78	
		O_2 sat.		93.00	78.00	78.00	
A.F.	D.P.	Sugar		79.00	70.00	74.00	Patient quiet, good punctures CO_2 cont. normal, O_2 sat. very low
		CO_2 cont.		49.01	52.73	54.04	
		O_2 cont.		16.40	10.77	7.45	
		O_2 cap.		21.66	21.66	21.66	
		O_2 sat.		76.00	49.00	35.00	
S.McD.	D.P.	Sugar					Patient quiet, good punctures CO_2 cont. normal O_2 sat. low
		CO_2 cont.		50.53	55.09	56.92	
		O_2 cont.		16.76	12.72	9.95	
		O_2 cap.		20.43	20.43	20.43	
		O_2 sat.		82.00	62.00	49.00	
J.A.	D.P.	Sugar		89.00	79.00	84.00	Patient quiet, good punctures CO_2 cont. normal, O_2 sat. low in all but basilic vein
		CO_2 cont.		49.39	56.85	51.76	
		O_2 cont.		17.21	12.26	14.15	
		O_2 cap.		20.38	20.38	20.38	
		O_2 sat.		85.00	60.00	69.00	
R.S.	D.P.	Sugar		100.00	85.00	87.00	Patient quiet, good punctures CO_2 cont. normal. O_2 sat. normal O_2 cap. low throughout
		CO_2 cont.		46.10	55.14	52.04	
		O_2 cont.		17.24	12.01	14.24	
		O_2 cap.		17.77	17.77	17.77	
		O_2 sat.		97.00	68.00	80.00	

TABLE VII. *Blood Chlorides.* (Mg. per 100 c.c.)
(Van Slyke Method)

Patient	Diagnosis	Brachial artery	Internal jugular vein	Basilic vein	Remarks
W.K.	D.P.	498	500	498	No significant change
M.Mc.	D.P.	463	464	466	No significant change
S.S.	D.P.	462	460	460	No significant change
T.M.	G.P.	468	468	466	No significant change
H.B. (1)	D.P.	448	448	449	No significant change
(2)	....	450	451	452	No significant change
T.O'B. (1)	D.P.	454	453	453	No significant change
(2)	....	453	453	452	No significant change
E.B. (1)	D.P.	483	481	...	No significant change
(2)	....	480	480	...	No significant change
W.B. (1)	G.P.	494	494	...	No significant change
(2)	....	494	495	...	No significant change
T.H. (1)	D.P.	473	472	...	No significant change
(2)	....	470	472	...	No significant change

COMPARISON OF TREATED AND UNTREATED CASES OF GENERAL PARESIS*

By JULIUS LOMAN, M.D., RESEARCH ASSISTANT, BOSTON STATE HOSPITAL,
INSTRUCTOR IN NEUROPATHOLOGY, TUFTS MEDICAL SCHOOL
RESEARCH FELLOW IN NEUROLOGY

This paper represents a study made of the general paretics admitted to the Boston State Hospital from the year 1921 to 1929 inclusive. What will be attempted to be shown is the difference in the course of the treated and the untreated patients and a comparison between the treated group with groups treated by one special method such as malaria or tryparsamide, reported by others.

There will be no especial attempt to evaluate the efficacy of one method over another, for the large majority of those treated in this series were given more than one drug or substance.

As is well known, there is a great divergency of opinion as to the superiority of one method or one drug over another. The following are some of the reports of workers, using malaria, tryparsamide and milk:

Bunker and Kirby[1] reported that out of 106 cases treated with malaria there were 13 moderate remissions and 37 full remissions, of which 21 lasted more than a year and 12 more than 2 years. In another study[2] of 92 paretics, these authors cited 16 full remissions, of which 14 have been maintained for 3 years.

Studying 340 patients, inoculated with malaria, Gerstmann[3] reported 202 patients who showed more or less prolonged remissions; in 112 early cases the remissions were complete; and in 90 more advanced cases, the remissions were incomplete.

Bohr and Bruetsch[4] treated 100 patients with malaria and found that 25% were able to leave the hospital and that 12% were able to work about the hospital.

O'Leary and his co-workers[5] at the Mayo Clinic give the following figures for patients given malaria: 25% complete remissions and 37% definitely improved.

Comparing tryparsamide with malaria, Reese[6] concluded that 60% treated with the former drug are definitely benefited as contrasted with 30% benefited by the latter method.

Schwab and Cady[7] are even more optimistic about the tryparsamide treatment and conclude that although malaria seems to have a place in the treatment of paresis, tryparsamide appears to be the method of choice. They found that 68% of their patients have been able to carry on their former work with some standard of efficiency, and that 78% were arrested or improved.

Using tryparsamide in 69 patients, Kirby and Hinsie[8] gave these figures: 28% remissions and 26% improved.

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*From the Research Division, Boston State Hospital. Abraham Myerson, M.D., Director.

Hadden and Wilson[9] reported good results with 40% of their patients, who were put on tryparsamide.

Somogyi[10], in Budapest, compared three groups of 100 patients, treated respectively with malaria, milk and arsphenamine, and contrasted the results with a group of 100 untreated patients. He lists these methods in this order of their efficacy: Milk, malaria, and arsphenamine. The untreated group fell far below milk and malaria, but showed only a slight difference from the results given with arsphenamine.

Thus it is seen that each method or drug has its supporters.

However, it seems to be generally the opinion that treatment of some kind is beneficial. Furman,[11] for example, stated that the outstanding feature of treatment is the improvement in general health and more true remissions.

Raynor,[12] in reporting 1,004 untreated cases found only 3.5% remissions and 9% improved enough to leave the hospital.

Pellacani[13] cites authors to show that spontaneous remissions occur in only 5 to 11% of the patients.

From questionnaires sent to eleven State Hospitals in Massachusetts, it was learned that only three of them are at the present time using malarial inoculations in the treatment of general paresis. The remaining hospitals are not employing this method because of lack of suitable cases and a low admission rate of paretics. Four of the eleven institutions, however, prefer malaria, giving their reasons as follows: more numerous and longer remissions and more numerous remissions in young and selected cases.

All these hospitals are unanimous in that treatment is beneficial, either by arresting the progress of the disease for some time or by increasing the number and length of remissions.

The total number of patients studied in our series was 375 of whom 166 have been treated and 209 untreated. Of 48 paretics who were discharged, the fate of 15 are unknown at the present time.

The status of the treated group is as follows: 95 dead, 23 outside of hospital and 48 living in the hospital. Of the untreated group, 174 have died, 19 are outside and 16 inside the hospital.

In the following chart, a comparative picture of the course of the patients in the two groups may be seen.

CHART I

TREATED GROUP

Number of Patients	Complete Remissions		Incomplete Remissions		Number Improved	Number Stationary	Number Unimproved
166	7		26		9	22	100
	Length	*Number*	*Length*	*Number*			
	1 Year	2	3-8 Months	10			
	2 Years	2	1 Year	9			
	32 Months	1	18 Months	1			
	3½ Years	1	2 Years	3			
	5 Years	1	5 Years	1			
			7 Years	1			
			9 Years	1			

UNTREATED GROUP

209	4		13		1	8	183
	Length	*Number*	*Length*	*Number*			
	2 Months	1	2 Months	2			
	1 Year	1	3 Months	1			
	2 Years	1	6 Months	1			
	12 Years	1	18 Months	2			
			19 Months	1			
			2 Years	3			
			3 Years	3			

Thus, there were in the treated series 33 remissions or a percentage of practically 20. If we include those patients in the improved group, the percentage benefited is 25.3.

In the untreated series, there were 17 remissions or a percentage of 8.1%.

If we analyze the remissions in the entire treated group, we find the following relationship between the onset of the disease and the time therapy was first administered. Of the 33 remissions, 24 were given treatment from 1 to 12 months after the definite initial symptoms and the other 9 from 18 months to 3 years after the beginning of the disease. Eleven of the 33 had mixed treatment, that is, after showing no improvement under one drug, they were given another. Nor were all these patients intensively treated. For example, there were remissions lasting one year following injections of 3, 10, 12 and 14 arsphenamines respectively; one of 7 years following 1 intravenous and 1 ventricular injection of arsphenamine. A complete remission of 2 years followed 3 intraspinous injections, and another lasting one year occurred after 3 intravenous injections of arsphenamine. On the whole, there seemed to be no definite relationship between the amount of treatment and the incidence of remissions. For example, of 17 remissions which followed arsphenamine injections, only one received as many as 60; the remaining remissions resulted from a wide scattering of injections.

From the following chart it is seen how difficult it is to make any definite rule or prediction as to the relationship between the amount of treatment administered and the expectancy of remissions. It is noted, for example, that almost as many and as lengthy remissions followed few injections as occurred after a moderate or large number of injections.

In other cases, the treatment may be given the whole credit for the remission when it may have been only coincidental or one factor in the outcome of the disease. Thus, in two cases in our series, in which remissions of 3 months and 5 years occurred, the improvement in each case began one or two months before therapy was begun; and in four other cases, the remissions began from two to three years after treatment was discontinued. It is probable that the two former cases represented types of the disease that were on their way to remissions and that the therapy acted as a sustaining influence; in the latter four cases holding the disease in check until the remissions occurred. Also, these 6 patients were given the benefit of early treatment as were the majority of the 33 paretics.

CHART II

Case	Length of Remission	Treatment	Interval between Onset and Treatment	Remarks
1	1 Yr. (C)	3 Arsph.	1 Month after Onset	
2	1 Yr. (C)	12 Tryps. 8 Sulphs. Relapsing Fever.	3 Months after Onset	Remissions began 3 yrs. after treatment.
3	2 Yrs. (C)	22 Tryps.	8 Months after Onset	
4	2 Yrs. (C)	3 Is. Arsph.	3 Months after Onset	
5	32 Mos. (C)	Malaria (5P) Sodoku	1 Month after Onset	Malaria discontinued because of poor physical condition of patient.
6	3½ Yrs. (C)	12 Arsph.	3 Months after Onset	Remission began 2 mos. following a severe attack of erysepelas
7	5 Yrs. (C)	180 Arsph., 7 Is Arsph. 95 Sp. Drainages, 60 Tryps.	Few Mos. after Onset	Slightly deteriorated condition maintained for 9 yrs. following remission.
8	3 Mos. (I)	9 Sulphs. 6 Hgs.	2 Yrs. after Onset	
9	3 Mos. (I)	23 Arsph.	3 Yrs. after Onset	Remission began 2mos. before treatment.
10	3 Mos. (I)	14 Sulphs. 47 Carotid Sulphs.	1 Yr. after Onset	

CHART II — Continued

Case	Length of Remissions	Treatment	Interval between Onset and Treatment	Remarks
11	4 Mos. (I)	Malaria (12 P) 10 Milk Ins., 24 Tryps.	3 Months after Onset	Remission began 1 mo. after the last milk injection and 2 yrs. after the malaria treatment.
12	6 Mos. (I)	3 Tryps.	1 Yr. after Onset	
13	6 Mos. (I)	20 Arsph.	1 Month after Onset	Remission began 3 yrs. after treatment.
14	6 Mos. (I)	34 Carotid Sulphs. and Tryps.	3 Yrs. after Onset	
15	6 Mos. (I)	32 Arsph.	6 Months after Onset	
16	7 Mos. (I)	22 Arsph.	7 Months after Onset	
17	8 Mos. (I)	8 Is. Arsph. 14 Sulphs. 44 Arsph.	3 Months after Onset	
18	1 Yr. (I)	80 Tryps.	8 Months after Onset	
19	1 Yr. (I)	Malaria (12 P)	6 Months after Onset	
20	1 Yr. (I)	40 Arsph.	1 Month after Onset	
21	1 Yr. (I)	19 Arsph.	18 Months after Onset	
22	1 Yr. (I)	33 Arsph.	2 Yrs. after Onset	
23	1 Yr. (I)	15 Arsph.	2½ Yrs. after Onset	
24	1 Yr. (I)	3 Arsph.	1 Month after Onset	Remission began 2 yrs. after treatment.
25	1 Yr. (I)	14 Arsph.	1 Month after Onset	
26	1 Yr. (I)	10 Arsph.	8 Months after Onset	Remission began 3 years after last treatment.
27	18 Mos. (I)	35 Carotid Sulphs., 14 Sulphs., 20 Tryps.	3 Months after Onset	Remission began after 4 mos. of carotid injections.
28	2 Yrs. (I)	30 Arsph.	4 Months after Onset	
29	2 Yrs. (I)	30 Sulphs., 6 Hgs.	3 Yrs. after Onset	
30	2 Yrs. (I)	Several Carotid Tryps. 8 Sulphs. Malaria (19 P)	1 Yr. after Onset	Remission began 3 mos. after malaria treatment.
31	5 Yrs. (I)	38 Carotid Sulphs. and Tryps.	8 Months after Onset	Remission began 1 mo. before treatment.
32	7 Yrs. (I)	1 Arsph. 1 Ventricular Arsph.	2 Yrs. after Onset	
33	9 Yrs. (I)	8 Arsph., 4 Arsph. 60 Neoarsph.	2 Years after Onset	Remission began few mos. following second course of treatment (4 arsph)

The factor of early treatment then appears to be more important than the intensity of treatment.

There were many paretics in our group that received as many as 100 or more injections without any apparent benefit. These probably represent the more resistent types of the disease.

Not only does there appear to be a difference in the resistance of many paretics to treatment, but there is also, as is well known, a difference in the rapidity of the progress of the disease.

This difference may readily be seen in the 209 untreated cases in this series. For example, there were 30 that died during the first 6 months, and 47 from the 6 months to the one year period. These patients may be considered the very rapid and moderately rapid cases. Whether treatment would have affected their course is very problematical.

The question may be asked: Why were such a large number of patients untreated? This was probably due, in great part at least, to the fact that when admitted a large number of them were of such an acute or florid type that it was felt that therapy would not benefit them. 125 of the 209 untreated group were considered to be of this type, while there were 65 of the 165 treated patients falling in this category, or a percentage difference of 60 against 40. Such a selection would, of course, substantially alter the percentage of remissions in the treated and untreated groups.

However, when all the speculation over these facts is finished, we find that although 23% of the treated paretics have lived 5 years or over as against 14% of the untreated paretics, there is a difference in the average duration of the disease of approximately only 1 year, or 3.3 years against 2.2 years in favor of the treated paretics.

In spite of the discouragement that may result from the treatment of paretics generally, there is considerable evidence from this and other reports that treatment begun soon after the onset of the disease will definitely influence the disease in many cases, as Solomon[14] pointed out in 1923.

Another point that is suggested from a study of the treated cases is that when one method of therapy seems to fail, another should be attempted.[15] For example, to take the patients, a total of 20, who were at some time inoculated with malaria: 16 of these had several paroxysms, the other 4 only 4 or 5 paroxysms. Of the 16, 4 had remissions; one of 4 months, 1 of 1 year, 1 of 2 years, and 1 almost complete of 32 months. Four were stationary and the remaining 8 progressive. Although the 1 year and the 2 year remissions began shortly after the end of the treatment, the other 2 of 4 months and 32 months duration were affected after malaria had apparently failed and milk and sodoku later tried.

In the other 12 cases, not only was malaria ineffective, but also were tryparsamide, milk and carotid injections[16] of sulpharsphenamine and tryparsamide.

If we consider those remitting patients who had a negligible amount of treatment as practically untreated cases, our comparison of the two groups of remissions is much altered:

It will be seen from the following chart that there is very little difference in the percentage of remissions in the two series: namely, 14% as compared to 11%, only 3% in favor of the treated patients.

It may be, of course, that had more intensive therapy been given to many of the patients, there would have been more remissions. The majority, however, were given moderate to intensive treatment.

At any rate, with the methods of therapy used here, there seems to be little value.

The types of therapy indicated on Chart II are representative of the treatment given the other patients in the treated group.

Treated	
No. of Patients	166
No. of Complete Remissions	7
No. of Incomplete Remissions	26
Total Remissions	33
Percentage of Remissions	20
Cases in which treatment probably had no relationship to remission	10

6 of these followed:

1. 3 intraspinous arsphenamines.
2. 3 intravenous arsphenamines.
3. 3 intravenous arsphenamines.
4. 1 intravenous plus 1 ventricular arsphenamine.
5. 3 tryparsamides.
6. 1 erysepelas.

4 remissions began 2–3 years after treatment. Excluding these, percentage of remissions would be 14.

Untreated	
No. of Patients	209
No. of Complete Remissions	4
No. of Incomplete Remissions	13
Total Remissions	17
Percentage of Remissions	8.1

Including the 6 cases in which treatment was negligible percentage of remissions would be 11.

The following brief case reports demonstrate some of the possibilities in the course of the treated and untreated paretics. They are all unusual in that the patients have lived several years.

CASE I

Intensive treatment begun soon after onset; remission of 5 years followed by an arrested or slowly progressive course. Duration of disease 14 years.

D. S. Age 36. Patient was admitted in 1915 because of frequent convulsions. P.E. Pupils sluggish to light; knee and ankle jerks absent, tremors of fingers and tongue, marked speech defect. Blood Wassermann positive. Spinal fluid: Wassermann positive; cells 15; globulin +++; albumen +++; gold sol 55534432100.

He was given arsphenamine injections for several weeks and was able to return to his former position and do other work until 1920 when his seizures recurred, and treatment was again started. The convulsions have continued up to the present time. Mentally, since 1920, he began to show some memory defect and was dull and apathetic. However, at present, his memory is good; he is quiet, tidy, though somewhat dull and apathetic.

In all, he has received 180 intravenous arsphenamines, 7 intraspinous injections, 95 spinal drainages, 60 tryparsamides, and a considerable amount of mercury and iodide. There were 119 lumbar punctures done. He was given no treatment after 1925. The spinal fluid fluctuated between strongly positive and entirely negative during all the treatment. At present, it is completely negative.

CASE II

Moderate treatment begun 4 years after onset; duration of paresis 15 years; slight improvement for 9 years.

E.P. Age 30. Admitted in 1918. Since 1914, patient had been paranoid against her husband and gradually becoming more and more forgetful. Also had an occasional convulsion. She was finally sent to the Boston City Hospital in 1918 where she was described as deluded and demented. Blood Wassermann was positive. Spinal fluid Wassermann positive, cells 25; globulin +++; gold sol 5555443210. Neurological examination essentially negative. The patient was very untidy, noisy, and deluded; speech thick and unintelligible; judgment and insight poor. She was given 60 arsphenamines intravenously from 1918–1920. In 1920 there were no delusions present, but she was dull, disoriented, and had a marked poverty of ideas. She has continued in this condition until the present time, though able to do simple ward work.

CASE III

Irregular, moderate treatment, begun 2 years after onset; duration of disease 13 years; remission of 9 years.

O.N. Age 43. Admitted in 1918. Since 1916 he had been getting increasingly nervous and had great difficulty in keeping work. In 1918 he was very forgetful, grandiose and suicidal. Neurologically, he showed Argyl-Robertson pupils and tremors of the tongue and hands. Mentally, he was excited, destructive, euphoric, and grandiose. Memory was very patchy. Blood Wassermann positive. Spinal fluid: Wassermann positive; cells 12, globulin +; albumen plus, gold sol 555553421.

Soon after admission, he was given 8 intravenous arsphenamines. In 1919, he received 4 arsphenamines. Shortly afterwards he began to improve and was discharged late in 1919. From 1920–1922, he received 60 neoarsphenamines. He was able to go to work in 1920.

In 1920 he showed a marked speech defect and was somewhat paranoid, but otherwise well mentally and able to do his work. In 1924, the spinal fluid was entirely negative; and since then he has been teaching music rather successfully.

CASE IV.

Very little treatment. Partial remission of 7 years; duration of disease 11 years.

E. M. Age 39, admitted in 1916. Onset in 1914 with speech defect and convulsions and paranoid ideas. On admission, the neurological examination was essentially negative. Blood Wassermann negative; spinal fluid: Wassermann positive, cells 100, albumen 4, globulin 4; gold sol 5555544310. Mentally, she was noisy and paranoid until 1918 when she became agreeable and a good worker on the wards; she was somewhat deteriorated. She was discharged in 1920. From this time to 1925, she was doing housework very efficiently. When she last reported in 1925, she was fairly alert and had moderate insight into her condition.

As to treatment, she has received 1 intravenous and 1 ventricular injection of arsphenamine.

CASE V

No treatment; duration of disease 11 years; very demented.

A. D. Age 29, admitted in 1918. Few months previously, the patient began to act very peculiarly. On admission she was very confused, excited, restless, and deluded. Neurologically, essentially negative. Blood Wassermann positive; spinal fluid: Wassermann positive; cells 101; globulin +; albumen +; gold sol 5543322210. Course: Frequent convulsions and gradually progressive course. At present she is extremely demented. Spinal fluid in December, 1929: Wassermann positive; cells 40; globulin 1; albumen 1; gold sol 5555443200.

CASE VI

No treatment, duration of disease 16 years; gradual progressive course.

J. P. Age 33, admitted in 1912. Onset of psychosis: few months before with grandiose ideas and agitation. Neurological examination: Pupils equal and irregular and almost fixed to light. Mentally, he was grandiose, hallucinated and overtalkative. He became gradually worse. In 1927, he was very deteriorated; he died in 1928.

The spinal fluid in 1913 showed a positive Wassermann, cells 42; globulin ++; albumen ++; no colloidal gold test done.

CASE VII

No treatment; duration of disease 16 years; good remission of 12 years following an infection.

A. K. Age 43. Admitted in 1914. Since 1910 patient had been getting increasingly forgetful and easily tired. In 1914, following an accident, he became very deluded and restless. Neurological examination: The left pupil was fixed to light and distance; the right pupil was fixed to light but reacted to accommodation; knee jerks absent; marked speech defect. Blood Wassermann positive; spinal fluid: Wassermann positive; globulin +++; albumen increased; cells 16; no gold sol done. Mentally, the patient was fairly well oriented but his memory was very hazy; he was very grandiose and euphoric and lacked insight. He continued very psychotic for 4 months when he became quiet, very sociable and developed a good insight into his condition. Two months before the improvement began he had had a bad infection of one of his toes and ran a temperature ranging from 101 to 103 degrees for several days. He was discharged 4 months after admission as greatly improved. He reported several times since then and except for some dullness, slight speech defect and omission of letters in test words, he appeared fairly well. In the interim, he had been working and was able to drive a car. The blood serum was positive on two occasions. The spinal fluid Wassermann became negative; albumen was moderately increased, and 2 colloidal gold tests were as follows: 0033330000 and 1242310000. The patient continued working until 1926 and died of "acute indigestion".

SUMMARY

From a study made at the Boston State Hospital of treated and untreated paretics over a nine year period from 1921–1929, the following comparison and conclusions were made:

1. In a group of 166 treated paretics, there were 20% remissions.
2. In a group of 209 untreated paretics, there were 8.1% remissions.
3. If the cases that were so little treated and whose remissions were probably independent of treatment were excluded, the remission comparison would be 14% against 11%.
4. The selection of the cases for treatment would alter such a difference still more, for it was found that many more apriori hopeful cases were included in the treated group than in the untreated group.

5. The majority of remissions in the treated series followed treatment that was begun within a few months after the onset of the psychosis.

6. There was no relationship between the amount of treatment and the incidence and the length of remissions.

7. Although there were more remissions and more paretics living over five years in the treated group, the advantage in duration over the paretics in the untreated series was only one year. The average length of the disease in the former group was 3.3 years and in the latter group 2.2 years.

8. The percentage of remissions in the treated series is decidedly below most of those reported by workers using either malaria, tryparsamide, or milk. However, it is possible that the selection of cases used by each worker accounts in great measure for such differences in results.

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THE WHITE BLOOD CELLS IN GENERAL PARESIS*

By William Dameshek, M.D., Research Assistant, Boston State Hospital
Instructor in Medicine, Tufts Medical School
Research Fellow in Neurology

The white cells seen in the blood-stream arise from three different and widely-scattered tissues: the bone-marrow, the lymphoid tissue and the reticulo-endothelial system. The study of the various cells making up the total white blood cell count gives us indirectly an inkling as to the functional activity of the above-named tissues. With this in mind, it was felt that a careful study of the white blood cells in general paresis might give us information that could not otherwise be obtained in regard to the physiological pathology of that disease.

The cellular constituents of the blood in general paresis have been studied by a few observers in the past. Most of these studies were made before attention became focussed on the serum and spinal fluid reactions which occurred in syphilis (and in general paresis). Studies made prior to the time of Ehrlich (1880–1890) were as a rule grossly inadequate because no satisfactory methods of staining or of counting the blood cells had been devised. Again, studies made prior to 1920 or thereabouts were not very satisfactory according to present standards because in most instances the authors made no especial distinction between the large lymphocyte and the monocyte. These cells were usually grouped together and called "large mononuclears", although the term "transitional" was reserved for certain of them. Until 1920–1925 (and even to the present time in some instances) the significance of the monocyte as an individual cell derived directly from the reticulo-endothelial tissue was not generally recognized. Since 1925, a few studies of the blood morphology in general paresis have appeared; these have been chiefly in relation to the treatment of the disease by inoculation with malarial blood.

The earliest known writers on the cellular constituents of the blood in general paresis were Erlenmeyer (1846), Hittorf (1847) and Michaele (1848). The latter is quoted by several authors as noting an increase in the "globules" and a change in the character of the blood in convulsions and cataleptic seizures; the nature of this change is not described. Sutherland (1873), Voisin (1879), McPhail and others described an increase in the relative proportion of white blood cells to red blood cells in the insane, especially in general paresis. Lewis (1889), using the pipette, found a leucocytosis of 10,000 or over in seven of twenty-one cases of general paresis. The first differential counts of the white blood cells in the disease were made by Krypiakiewicz (1892) who contented himself apparently with observing that there was no increase in the eosinophiles at any stage of the disease. In 1894 Roncorini found that the eosinophiles became increased to as high as 25% when the patient was agitated.

The first adequate study of the blood morphology in general paresis was that of Capps (1896). Twenty cases were studied carefully for some months. The hemoglobin and red blood cells were consistently found diminished; a leucocytosis occurred in most; there was an increase in "large mononuclears" and eosinophiles were numerous in certain cases. Two cases with frequent convulsions showed a marked increase in the "large mononuclears" directly after the convulsion; in one case cells which the author could not clearly differentiate but which he thought were typical myelocytes appeared following the convulsions. This observation is interesting and will be discussed further in the description of the case of D. S. Because of the lack of differentiation between large mononuclears and monocytes, the value of the paper is somewhat minimized.

Jelliffe (1897) found in studying twenty cases, a low white blood cell count in those with "lower vital tone", a higher range in cases with "general exalted condition". There were no marked constant findings.

Papers with very little significant data were contributed by Burton, Houston, Diefendorf and Mackie. Bruce (1901) examined six cases very frequently for three to four months and established a correlation between rise in temperature and rise in white blood count. He found that as a remission became established, the white blood cell count fell to normal. Klippel and Lefas (1902) found "normoblasts" in eight of twenty-two cases and "basophilic myelocytes" in all. Bodington (1907), in a careful study, found that the differential counts of the white blood cells differed with the stages of the disease and with the presence of convulsions. With the latter, the author noted an increase in the total white blood cell count, an increase in the "large mononuclears" and the presence of "large typical myelocytes". Schrottenback (1912) found an increased white blood cell count coincident with the development of a hemiplegia. Gorrieri (1914), in a study of fifteen cases, found that as the disease progressed, polymorphonuclear cells gradually diminished and leucocytes increased. With a convulsion there was a rise in white blood count.

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*From the Division of Research, Boston State Hospital, Dr. A. Myerson, Director.

Skalweit (1925) found that in the untreated case there was a slight increase in immature forms of polymorphonuclears, a low lymphocyte and eosinophile percentage and an increase in monocytes. In four cases with a marked lymphocytosis he considered the possibility of a "partial infantilism of the blood-forming organs".

Stender (1929) studied the blood picture in relationship chiefly to malarial treatment. He found in forty-five cases before malarial treatment that the lymphocyte percentage varied and that monocytes were often increased. He considered a longstanding lymphocytosis of poor prognostic significance.

Eddison (1929) in an unconvincing paper studied the bone-marrow and bloods of fifty patients. He found that the bone-marrow usually showed a diminution in white blood cells forming elements; and considered that the low white blood cell count in these cases meant a break-down in the general forces of resistance. He attempted to link up certain cord changes in the disease with the cord changes in pernicious anemia and considered the two diseases comparable from the point of view of changes in the cord and in the reticulo-endothelial system.

In the present study, seventy cases of general paresis were examined. White blood cell counts and stained smears were routinely made. Especial attention was paid to the differential count of the white blood cells. From 250 to 500 white blood cells (usually the former number) were counted. The polymorphonuclear cells were subdivided, according to the Schilling classification, into mature, band, young forms and myelocytes. The lymphocytes were classified as small, large, and plasma cells. The monocytes were classified as ordinary or mature and histiocytes or immature.

The blood-smears were also studied from the points of view of certain qualitative changes; namely, "toxic" changes in the polymorphonuclear cells and "activity" of the monocytes.

RESULTS OF STUDIES

1. *Daily Variations*

A small group of cases were studied intensively during the course of two to three weeks. There was rather wide fluctuation in the polymorphonuclear and lymphocyte percentages, but the percentage of monocytes was usually surprisingly constant. This is brought out in the appended charts. The futility of reporting upon the blood-picture in a chronic disease in which the statistics are based on a single observation should be obvious.

2. *Studies of the Blood from Different Situations*

In twenty cases in which blood-smears (and at times white blood cell counts) were taken from various parts of the circulation, no significant or uniform variations could be found. In these cases blood-smears were taken from the finger, ear, basilic vein, brachial artery, internal jugular vein and carotid artery. Blood from the internal jugular vein was obtained by the technique of Myerson and Halloran. It was thought that the internal jugular blood, which comes directly from the brain, might show some variation from the carotid which supplied the brain. Variations were found, to be sure, in the counting of 250 white blood cells but there was no uniformity in these variations, so that they were finally discounted.

3. *The Peripheral Blood Findings in General Paresis*

For purposes of convenience in this study the seventy cases of general paresis may be divided into three stages: Stage I — twenty-two cases. These include the early cases in which there are definite neurological signs, spinal fluid findings characteristic of general paresis, some euphoria or other mental symptoms but without definite deterioration. Stage II — thirty-six cases. These include the moderately advanced cases with definite deterioration, although the patient is still ambulatory and able to take care of himself. Stage III — twelve cases. These include the advanced cases with such marked deterioration that the patients are in bed almost constantly and wholly unable to take care of themselves.

(a) *The average differential count* of the white blood cells in the three stages is shown below.

CHART III

	Polymorphonuclear cells (%)	Immature Polymorphonuclears (%)	Lymphocytes (%)	Plasma Cells
Stage I . . .	65	2.4	25	0
Stage II . . .	54	2.8	33	in 11%
Stage III. . .	58	2.6	31	in 65%

	Monocyte (%)	Histiocytes (%)	Eosinophiles (%)
Stage I	8	0.4	2
Stage II	12	in 30%	1
Stage III	11	in 40%	4.2

These are average counts of large numbers of observations, but the variations in the various stages were quite marked. These are shown in Chart IV.

CHART IV

	Polymorphonuclear cells (%)	Immature Polymorphonuclears (%)	Lymphocytes (%)	Plasma Cells
Stage I . . .	49.2—79.2	0—8.2	7.6—34.7	0—1.2
Stage II . . .	22.4—74.8	0—10.4	12.7—53.2	0—1.2
Stage III . .	51.6—70.4	0—8.8	19.9—30.0	0.2—2.8

	Monocytes (%)	Histiocytes (%)	Eosinophiles (%)
Stage I.	5.2—14.6	0—0.8	0.8—6.4
Stage II	7.6—28.6	0—5.6	0.9—3.6
Stage III	6.0—13.2	0—2.0	0.6—12.8

The various changes will further be analyzed from the point of view of the various cell types.

(b) *Total White Blood Cell Count.* This was ordinarily, in the morning within the narrow limits of 6,000 to 8,000 per cu. mm. In the cases studied hourly there was slight rise in white blood count during the afternoon, though not to great extent. In an occasional case studied, the white blood count was consistently low. Thus E. T., in the second stage of paresis, showed a daily, even an hourly leukopenia, the white blood cell count never rising above 6000 per cu. mm. High white blood cell counts (above 12,000) were not encountered.

(c) *Polymorphonuclear Cells.* These cells are derived directly from the bone-marrow myelocytes. In the process of maturation, the myelocyte nucleus, which is round, gradually becomes more and more indented and finally lobed or segmented. These changes in the nucleus were utilized first by Arneth and later (since 1911) by Schilling for the estimation of (1) whether infection was present and (2) the degree of infection. The "Schilling index" has been used extensively and is much simpler to carry out than the formidable "Arneth index", use of which has rapidly waned. An infectious process of almost any type but particularly of the pyogenic increases the demand for bone-marrow leucocytes resulting in the appearance in the blood-stream for immature polymorphonuclears (myelocytes, "young" forms and of "band" forms). When the infection increases in severity, immature forms increase in number and conversely with decrease in infection, there is decrease in their number. Merely counting the polymorphonuclear cells as such without further differentiating them into mature and immature cells may result in the loss of much valuable information. In the present study, accordingly, the polymorphonuclear cells were divided into mature and "band" forms. It is true that but little information was gleaned from this subdivision of the granulocytes in that the band forms were present on the average in normal numbers (4% or less of the total white cell count); occasionally, however, as noted in Chart III there was definite increase in their number. (up to 8–12%). The lack of marked increase in band forms in this disease is undoubtedly due to the relative mildness of the infection and the paucity of polymorphonuclear cells as seen in the histology of the brain. In addition to these quantitative changes in the type of white blood count, a qualitative change which has been called "toxic" was observed.

In 80 percent of the cases, the polymorphonuclear cells showed some degree of this change. Toxic changes in the granular cells of the blood have been noted by numerous observers (Alder, Schilling). There are various degrees of this change. Thus in the slightest degree of toxic change there is irregularity in staining and placing of the granules. When this becomes marked, the cytoplasm becomes deteriorated and frequently vaculoted, granules often disappearing to great extent. I have observed these changes regularly in acute and chronic infections, their degree varying with the severity of the infection. They probably represent direct injury of the cell at the site of infection. Recent experiments with various types of infection appear to demonstrate that the "toxic change" may be the end result of the antigen-antibody reaction. It was interesting to observe that of the cases of paresis studied, 80 percent showed some degree of toxic change of the polymorphonuclear cells, usually slight, often moderate, and occasionally marked. The significance of these changes for general paresis is problematical although it was felt that they probably represented a reaction of the cell to the infective agent or disease process.

Eosinophiles, also of the bone-marrow series, were found in about normal proportions in the first two stages of the disease, but in Stage III there was definite increase in these cells, in two cases becoming as high as 8.6% and 12.8%. The slight eosinophilia of Stage III may be regarded as being due to the increase in chronic infection, since it is well-known that eosinophilia is an accompaniment of chronic infection. It may possibly be related to the fact that the patients in Stage III of the disease are bed-ridden, and I have found that the more "stagnant" an individual is, (as in the catatonic stage of dementia praecox) the higher his eosinophilia percentage is apt to be.

(d) *Lymphocytes.* From Charts III and IV it is seen that a definite lymphocytosis was noted in the cases of Stage II. This at times rose to the high figure of 40–53% of the total number of white blood cells. When a lymphocytosis was present, there was generally an increase in the number of large or immature lymphocytes. These are normally present in very small number; in fact are considered by some to be an abnormal constituent of the peripheral blood. They were found markedly increased in certain instances. Thus in Case H. L., of the 46.8% of lymphocytes, 42.0 were large lymphocytes; in Case J. M. of the total lymphocyte percentage of 53.2, 32.0 were large lymphocytes; in Case D. Sa. of 48.2% of lymphocytes, all were large lymphocytes.

As to the significance of a lymphocytosis, it is well-known that chronic infections such as tuberculosis, syphilis, etc., are accompanied by an increase in lymphocytes. With lymphocytosis an increase in the more immature larger lymphocytes is noted just as with polymorphonuclear leucocytosis, there is generally an increase in immature (band form) polymorphonuclear cells. In syphilis of all types, the chief reacting cell appears to be the lymphocyte, the lesions of syphilis being made up of large numbers of these cells (small, round cells, etc.). Lymph nodes as well are commonly involved in the disease resulting in increased production of lymphocytes.

The finding of typical plasma cells in 27% of the cases was an interesting observation, and apparently unique in the literature. In a Wright's stained specimen of a blood-smear, the plasma cell is seen as a fairly large oval shaped cell with a very deep blue cytoplasm and a small, round, eccentric nucleus in which the masses of chromatin are characteristically arranged as are the spokes of a wheel. There is often a perinuclear clear zone, although this is not constant.

Although there is some discussion as to the genesis of this cell, the concensus is that it represents a lymphocyte modified by infection, a "toxic lymphocyte." In the pathology of general paresis, one of the characteristic histological findings is the finding of large collections of plasma cells in and about the lesions. It is conceivable that some of these might be dislodged into the circulating blood so that we were not surprised to find plasma cells, in small numbers to be sure, in about one-fourth of the cases. They were found in more frequent numbers (in 65% of the cases) in the third stage of the disease, in only 11% of cases of Stage II, and in none of the cases of Stage I. This may be related to the greater collection of plasma cells in the lesions of the third or last stage of the disease, as compared to the comparably small collection in Stages I and II.

(e) *Monocytes.* The polymorphonuclear cells are derived from the myelocytes of the bone-marrow; the lymphocytes from the lymphoblasts in the germinal centres of the lymph-nodes, spleen, etc.; and the monocytes from the third of the hematopoietic organs — the reticulo-endothelial system. Except for the opinion of Naegeli who still feels that the monocyte is a bone-marrow cell and for Bloom who derives the monocyte from the lymphocyte, the concensus is that the monocyte is a definite, sharply demarcated cell derived directly from the system of histiocytes known as the reticulo-endothelial system.

For a discussion of this system, the reader is referred to articles by Aschoff, Krumbhaar, Schittenhelm, and Dameshek. Suffice it to say here that a group of large undifferentiated cells with vesicular nuclei and irregular cytoplasmic borders have been identified, chiefly by means of intravital dye studies. These cells have been found chiefly in the spleen, lymph-nodes, bone-marrow, liver, omentum, and lately in the lungs. They are highly phagocytic ("scavengers") and take up particles of dye, store fat as in Gaucher's disease and xanthomatosis, produce bilirubin from digested red blood cells and are probably concerned in antibody formation. In all probability they produce directly the monocytes as the myelocytes produce the polymorphonuclear cells. When there is proliferation of the reticulo-endothelial system, there is an increase in monocytes and at times histiocytes which are not normally seen, appear in the circulating blood.

The monocyte, as seen in supravitally stained preparations, is actively motile, moving in much the same fashion as an amoeba. Granules of dye (neutral red) tend to collect in the bend of the nucleus. In a blood-smear stained with Wright's stain, the monocyte is the largest of the normal cells of the peripheral blood — 12–14 micra in diameter. Its cytoplasm is gray-blue and contains innumerable very fine lilac-staining granules. Its nucleus, which is very large and usually indented and kidney-shaped, is composed of a fine chromatin meshwork. The cell differs materially from the large lymphocyte which has a sky-blue cytoplasm with at times a few coarse "azure" granules, and a small round eccentrically situated nucleus made up of heavy masses of chromatin. It is necessary to differentiate the cell from the large lymphocyte and not lump it in the all-inclusive class of "large mononuclear cells". The term "transitional cell" is also discarded in present-day hematological nomenclature along with the erroneous idea of Ehrlich that these cells represented transitions between bone-marrow cells and lymphocytes.

The number of monocytes in the peripheral blood may give us an indirect estimate as to the activity of the reticulo-endothelial system. Monocytosis has been found in chronic infections of various types, in the healing stage of acute infections (monocytic stage of defense of Schilling) and in subacute infections such as subacute bacterial endocarditis. Monocytes normally make up from 4–8% of the total white blood cell count. According to Sabin, etc., they should normally not exceed the absolute number of 480 per cu. mm. However, in my experience a monocyte percentage up to 10% is normal and a definite monocytosis does not ordinarily exist until the monocytes exceed 12% of the total white blood cell count. In 52% of the cases of general paresis studied, a monocyte percentage of 10% or more was found and in 20% of the cases a monocytosis of 12% or more was present. Occasionally the percentage rose to 40. The most consistent rises in monocytes were seen in Stages II and III.

When the percentage of monocytes was definitely elevated, histiocytes, their forerunners, were frequently seen. These cells, extremely large, (from 20–50 micra) and very active in supravital spreads, were irregular in shape, frequently presenting pseudopods and long streamers. The cytoplasm is sky-blue, containing coarse reddish granules which are characteristically grouped about the nucleus. The latter is oval, about one-third the size of the cell, has a definite perinuclear membrane and is typically composed of a spongy network. Phagocytized inclusions in these cells may at times be seen, while vacuolization of the cytoplasm is common.

Histiocytes were found in 20% of the cases, most commonly in Stage III of the disease. In one remarkable case (D. Sa.*) they were present in large numbers. Examination of a blood-smear on November 4, 1929 disclosed an extremely unusual differential count of the white blood cells: polymorphonuclear cells 22.4%, lymphocytes 48.2,% monocytes 28.6%. Monocytes could easily be divided into two types: the ordinary monocyte and the very large histiocyte. The latter made up 5.2% of the total white blood cell count. Many of the histiocytes contained phagocytized inclusions: red blood cells, broken down white blood cells, platelets. An occasional cell with double nucleus was seen. Supravital spreads showed these cells to be extremely active; amitotic division could be demonstrated occasionally.

On clinical investigation of this patient, it was found that this patient, a man of thirty-nine, had had general paresis since the age of twenty-four and had been the recipient of many years of treatment of all types. Blood and spinal fluid Wassermann reactions were now negative. He had frequent convulsions, as many as three or four nightly. It was discovered that the appearance of histiocytes was directly dependent upon the number and time of convulsions. Thus, during the morning hours after several nocturnal convulsions, histiocytes were present in large numbers, but as the day advanced, there was gradual reduction in monocytes and histiocytes. When convulsions were stopped by the use of phenobarbital, mono-histiocytes returned to almost normal levels; when they were resumed by the use of caffeine and alkalies, monocytes and histiocytes again were found in large numbers. The differential count of the white blood cells, normal before a convulsion, was extremely abnormal within ten minutes after it.

Twenty-five epileptics were studied at the Monson State Hospital but no such pathological findings were discovered. It was decided, therefore, that the histio-monocytosis of Case D. Sa. was dependent upon a convulsive attack in a patient with general paresis. Various speculations as to the cause of these decidedly unusual and interesting hematological findings were entertained although it was finally felt that the convulsions dislodged some of the proliferated reticulo-endothelial cells from the brain.

It is interesting to note that Capps in 1896 made much the same observation although he was unable to differentiate clearly, with the knowledge than at hand, the large cells which he found. He noted that "soon after an attack cells with a small round, deeply-staining nucleus like that of a lymphocyte but with a large body of clear protoplasm predominated". Bodington in 1905 also found that "a very remarkable change takes place both in the total number of white blood cells in the blood and in their general proportion". He thought that these cells were "large typical myelocytes".

Other observations, more minor in nature, were made on the monocyte, namely in regard to its activity as evidenced by the appearance of pseudopods in the stained specimen. These observations were carried over from the supravital method of studying the leukocytes in which the monocytes can be seen to possess the power of locomotion through the protrusion of pseudopods. A monocyte, if it is unusually active, may be fixed in the active state on a dry blood-smear preparation so that on careful examination, pseudopods are seen. It was found that of these cases of general paresis, 45% showed "active" monocytes — a much higher number than in a corresponding group of patients with dementia preacox. However, this finding of "activity" of monocytes in the fixed blood-smear preparation is subject to so much variation and dependent to great extent upon other factors such as technique, etc., that it is not to be recommended as worthy of further study, unless possibly more definite data are obtained.

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*To be reported.

Discussion

The cells found in the blood stream are to be looked upon, not as isolated phenomena, but as detached fragments of three systems or tissues: the bone-marrow, the lymphoid tissue, and the reticulo-endothelial system. Cells from these tissues appear in the blood-stream in varying numbers dependent upon the state of the tissues involved. In the presence of an infectious lesion, as in general paresis the demand for certain types of cells becomes increased and more of them appear in the blood-stream than normally. These cells tend to accumulate in large number at the site of the infection. Thus in general paresis, one finds in the brain an accumulation not only of plasma cells but of reticulo-endothelial cells (histiocytes monocytes). It is probable that some of these cells become swept out of the lesion into the general circulation and may be seen in the blood-smear. Thus careful study of the blood cells, particularly of the white blood cells, might be expected to give us some insight into the activity, not alone of the blood-forming tissues but of the infectious lesions of general paresis.

This was done, with the results as outlined above. Interesting observations were made, among them the unique ones that histiocytes may appear in relatively large numbers shortly after a convulsion in a general paretic; that a monocytosis is present in a large number of instances of general paresis; that histiocytes appear in an appreciable percentage of cases of the disease; that plasma cells are also seen in about 20% of the cases; that most of the polymorphonuclear cells show some evidence of "toxic" change due probably to direct contact with the infectious process.

No definite attempt was made to correlate these findings with the stage of the disease or with the prognosis. It is highly probable that no such correlations can be made and that the results, although interesting, are of but little practical significance. To us who have cooperated in this work, however, the result of this study of the cellular morphology of the blood in general paresis has been to make us more conscious of the cellular pathology of the disease and to suggest the rationale for certain modes of treatment. These will be taken up in detail in a later paper.

Summary

1. Seventy patients with general paresis were studied intensively from the point of view of the white blood cells, with the idea of getting some inkling as to the activity of the three blood-forming tissues (the bone-marrow, the lymphoid tissue, and the reticulo-endothelial tissue) in this disease.
2. In the course of this study, daily variations in the white blood cells; the blood cells from different situations in the circulation; and the cells in three arbitrarily defined stages of the disease were studied.
3. The polymorphonuclear cells showed, in 80% of the cases, some degree of "toxic" change, due presumably to damage at the site of infection.
4. The lymphocytes were usually increased and large lymphocytes were commonly found.
5. Plasma cells were found in 20% of the cases, most commonly in the stages of marked deterioration. This represents a unique observation.
6. Monocytes were increased in at least 20% of the cases. When a marked monocytosis was present, it was usual to find histiocytes, which are not normally seen.
7. In one remarkable case, histiocytes, often with phagocytic inclusions were found in relatively large numbers after convulsions, disappearing with cessation of convulsions.

Conclusion

The study of the white blood cells in general paresis, possibly without practical significance, gives us a consciousness of cellular reactions in that disease which may be of value in further studies.

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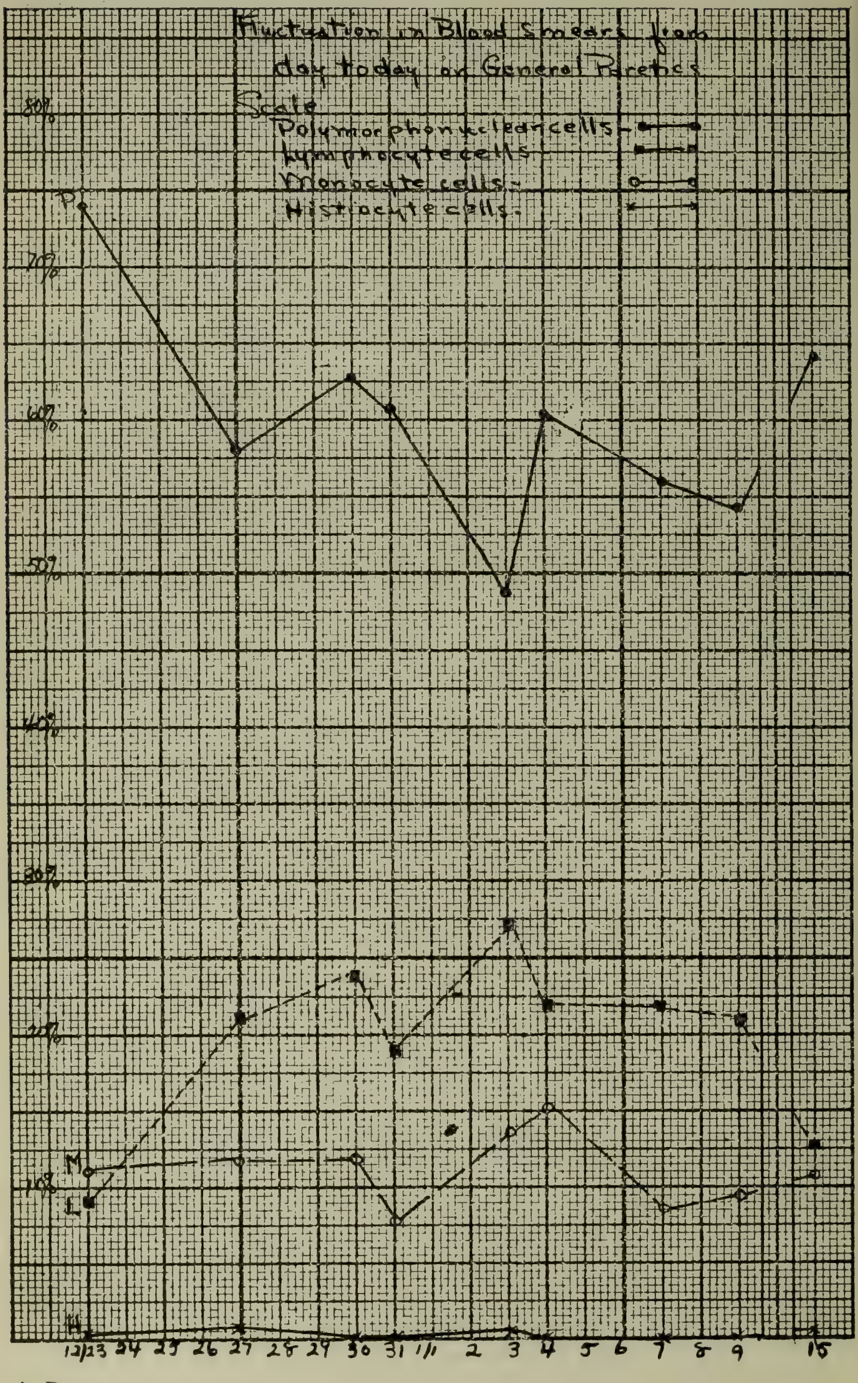
CHART I


Fluctuation in Blood Smears from day to day on General Paretics
Scale
Polymorphonuclear cells
Lymphocyte cells
Monocyte cells
Histiocyte cells
80%
70%
60%
50%
40%
30%
20%
10%
P
M
L
H
12/23
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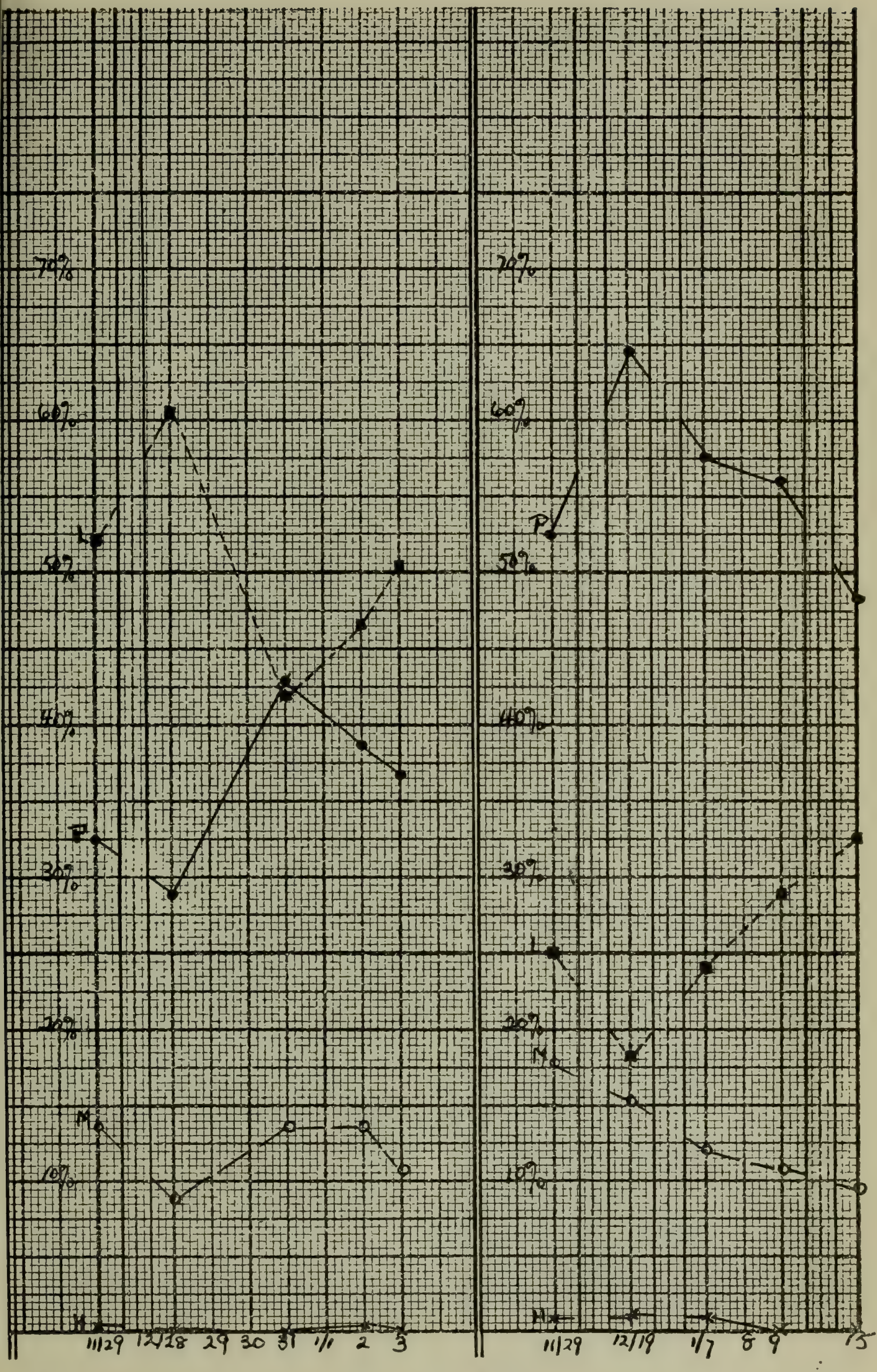
A. D.
G. P.

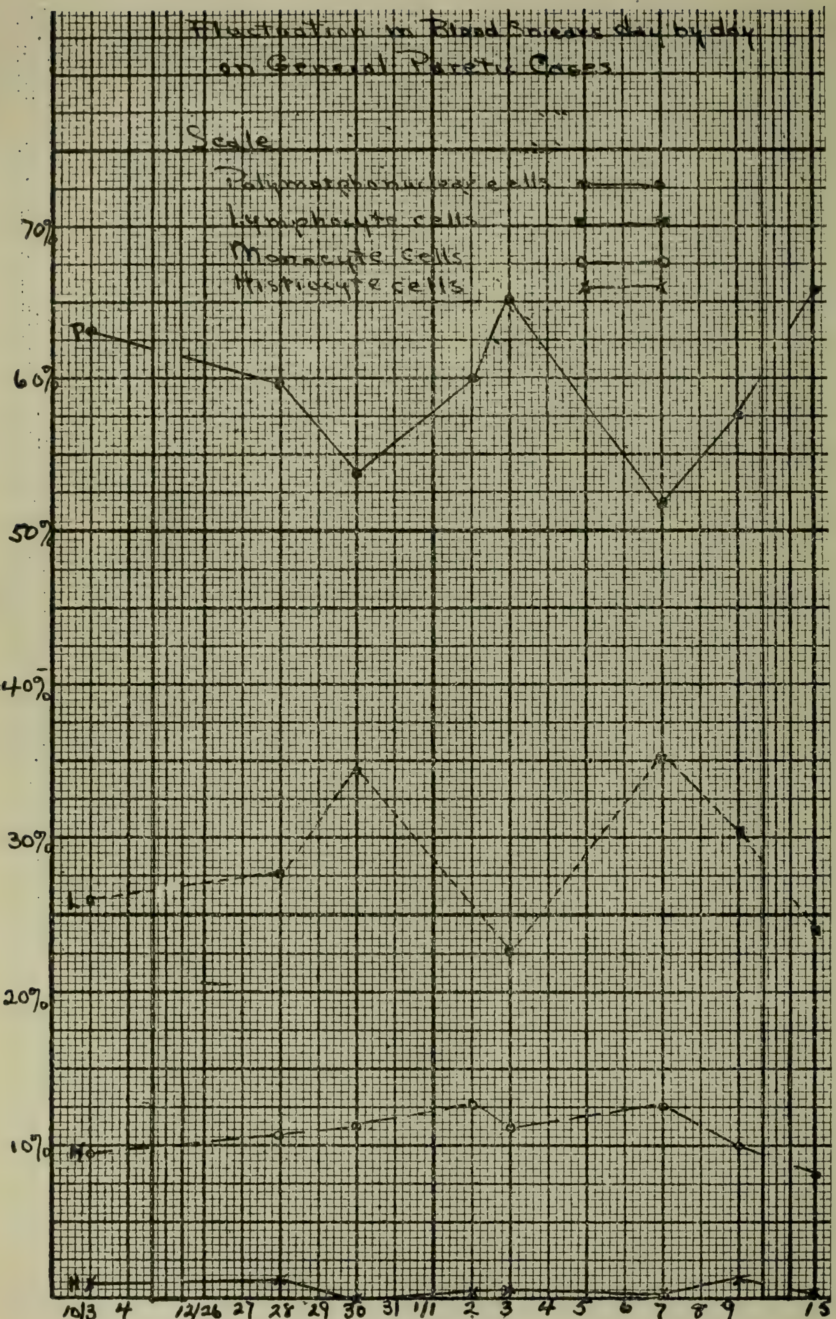
CHART I — Continued



D. S.
G. P.

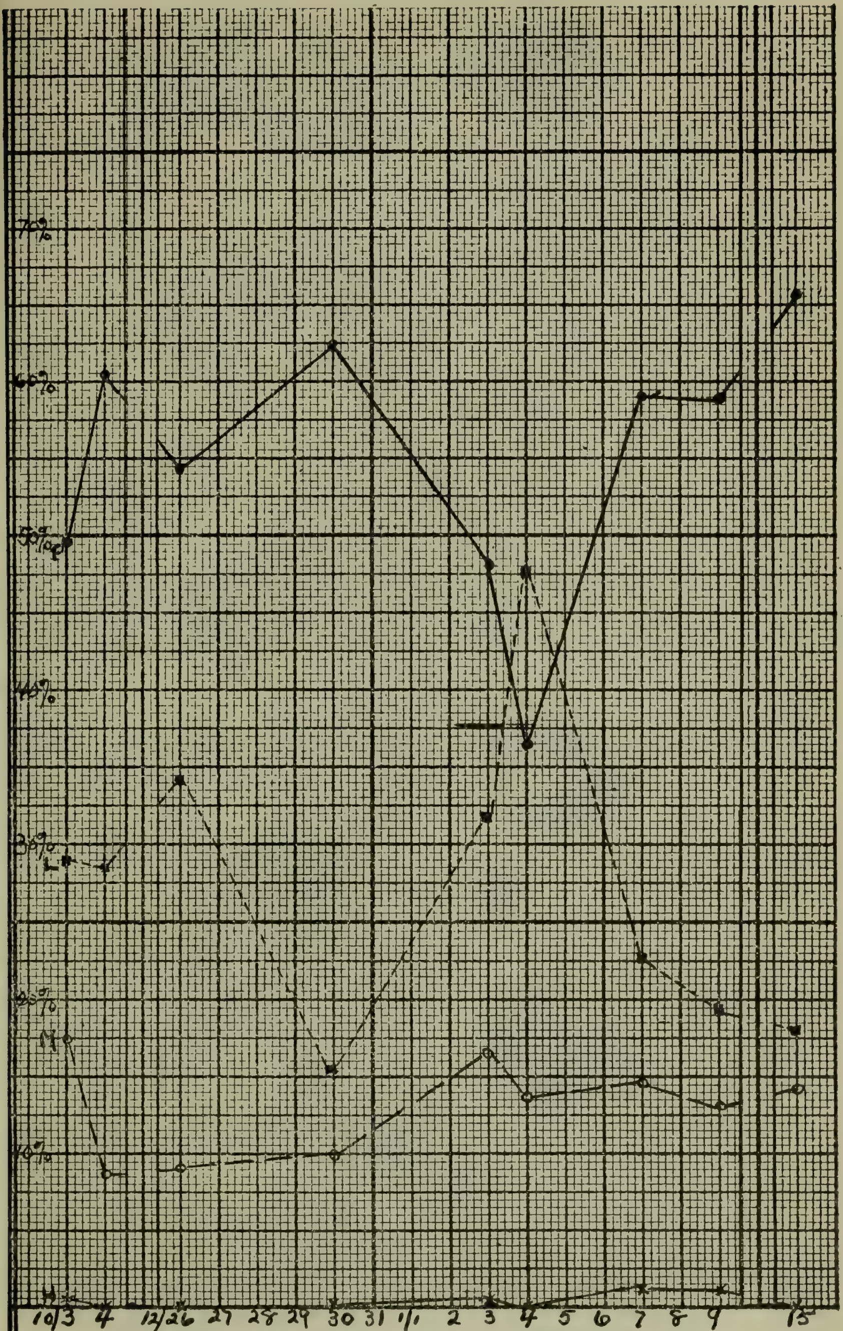
T. M.
G. P.

CHART II



B. M.
G. P.

CHART II — Continued



E. P.
G. P.

FIGURE I

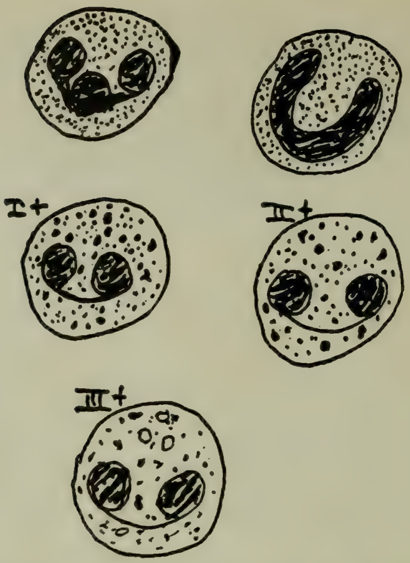


Figure 1 — Polymorphonuclear cells. The cell on the upper left is a mature neutrophile, with three lobes to the nucleus. The cell on the upper right is an immature neutrophile ("band form"). The lower three cells represent various degrees of "toxic change", the most marked being seen in the cell marked "III+".

FIGURE II.

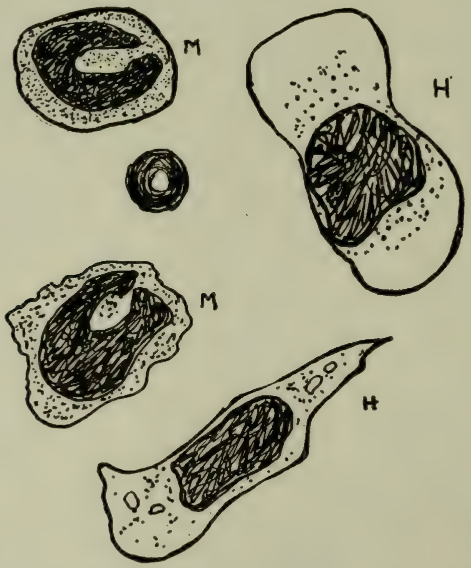


Figure 2 — Types of monocytes. The cell on the upper left (M) is a typical monocyte; the cell on the lower left is also quite typical with irregularity of the cytoplasm due to the projection of small pseudopods. Two histiocytes (H) are seen. Note their extremely large size, distribution of granules, and "spongy" nucleus. The cell on the lower right contains a few vacuoles.

Figure III

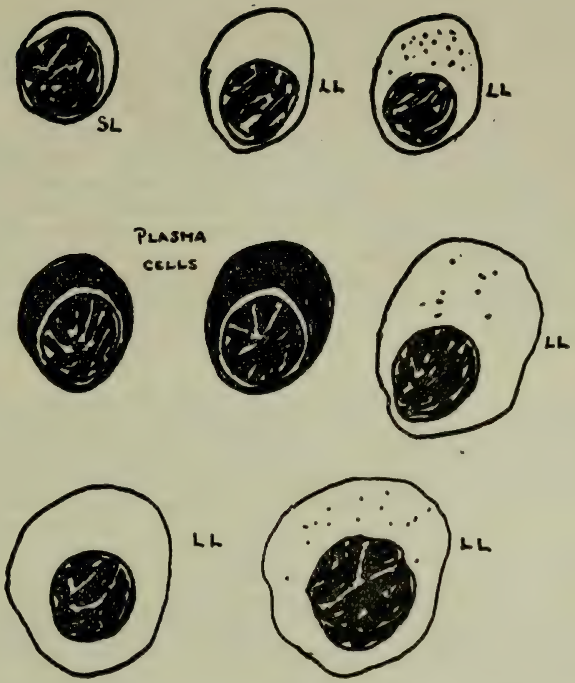


Figure 3 — Types of lymphocytes. A small lymphocyte (SL) and several types of large lymphocytes (LL) are seen. Two plasma cells with intensely dark-staining cytoplasm, spoke-like arrangement of the nuclear chromatin and light perinuclear zone are seen.

SEDIMENTATION RATES IN VARIOUS PSYCHOSES

by Caroline Stephenson, A.B., Research Biochemist,
Boston State Hospital

Definition, History and Importance

The sedimentation rate is the speed with which the red blood cells settle out of a column of blood to which an anticoagulant has been added. Hunter in 1791 was the first to describe the sedimentation rate as being increased during an inflammatory process, the speed depending on the severity of the infection. However, there were many variable factors connected with it and up to the time of Fahreus in 1918 when he worked on the rate in pregnancy, little had been done of note. Since Fahreus' work extensive study has been done and the rate has been shown to be of importance in determining the presence or absence of infection or tissue damage and their severity. The sedimentation rate has been reported to be of clinical importance in the practice of obstetrics, gynecology, surgery, and general medicine. In the latter it has been found useful especially in tuberculosis and rheumatic fever. However, there has been a great deal of discussion as to the accuracy of the various methods used and because of this the test has not been considered to be a reliable one.

In psychiatry little has been done of importance and that only recently. Plaut reports the sedimentation rate increased in general paralysis and psychoses due to arteriosclerosis, more than in the majority of psychopathic personalities, hysteria, melancholia, dementia praecox and epilepsy. Runge also found an increase in the rate in general paralysis, tabes, syphilis of the brain, arteriosclerotic psychoses, inflammatory cerebral processes and also in many cases of dementia praecox. Glaus in 1924 observed an increase in senile dementia, neurosyphilis, general paralysis, catatonia and in the period immediately following an epileptic attack — no increase in constitutional psychopathic states, neuresthenia, hysteria, paranoia and manic depressive psychoses. In 1928 Goldwyn reported the results on rates done on various types of patients at the Worcester State Hospital. He came to the conclusion that the rate varied directly with the amount of mental deterioration, amount of organic destruction and amount of toxicity present. He obtained normal rates in cases of manic-depressive psychoses, psychopathic personalities, psychoneuroses and paranoia unless complicated by a physical disease — increased rates in cases of senile psychoses, psychoses due to cerebral arteriosclerosis, general paralysis, neurosyphilis, psychoses showing mental deficiency or somatic disease, acute types of alcoholic psychoses and in many cases of epileptic psychoses and involutional melancholia. In dementia praecox he reports normal rates in the simple and paranoid types if not complicated by physical disease and increased rates in the hebephrenic and catatonic types and all cases showing advanced mental deterioration.

Various Methods

Until recently the methods in most common use have been the Linzenmeier and Westergren methods or modifications of these methods. The Linzenmeier method is based on timing in minutes the settling of the red blood cells through a definite space. The Westergren method is based on reading the settling in millimeters at the end of a given time. In these methods sodium citrate is used as the anticoagulant. Goldwyn, in his studies on sedimentation rates at the Worcester State Hospital, employed the Morriss modification of the Westergren method, taking readings directly in per cent at the end of one and two hours.

In the last few years various modifications of these methods have been introduced. Probably the most accurate of the many methods is the one described by Rourke and Plass in 1929. This method was developed as a result of an extensive study on the effect of various conditions on the settling rate of the red blood cells, in an attempt to make the reaction directly dependent on two factors (1) amount of infection, (2) amount of tissue damage. This method involves the use of heparin as the anticoagulant, avoiding stasis in drawing the blood, determining the rate on the day the blood is drawn and maintaining a constant temperature during the determination. They further pointed out the importance of the volume percentage of red blood cells, that the fewer the cells the faster the rate. Thus an anaemic patient would have an increased rate even without infection. Therefore these authors advised correction be made for the variation in concentration or cell volume of the blood (hematocrit). The importance of this cell volume percentage had also been pointed out by several other investigators in connection with sedimentation rates.

Rourke and Ernstene have further modified this heparin method and make a more accurate correction for the hematocrit or the volume percentage of the red blood cells by means of a reference chart.

Method

The method they describe and which has been used in the present study is as follows: tubes having a volume of 1.20–1.25 cc. in a height of 100 mm. and graduated in 2 mm. divisions from 0 at the top to 100 at the bottom are used. The blood is drawn without stasis into a dry syringe (about 2 cc. are needed), this is put immediately into a small tube containing 2 mg. of heparin, shaken well and allowed to stand at least 15 minutes to come to the temperature at which the determination is to be made. The blood is mixed well for two or three minutes and 1 cc. put into the tube, up to the 0 mark in which the determination is to be made. The time is recorded every 2 mm. of settling until two readings of definitely slower rates, denoting packing are obtained. There will be three or four readings approximately the same at the period of most rapid settling and these are the figures used in plotting the rate in millimeters per minute. The tubes are then centrifuged 30 minutes at 3000 R.P.M's. and the hematocrit read directly in volume percentage. The rate of settling in millimeters per minute is then corrected with the determined hematocrit on the reference chart to the rate of settling at 45 vol. % hematocrit. The normal sedimentation index is between 0.08 mm. and 0.35mm. per minute.

In addition to the study of the sedimentation rate all patients were carefully examined for presence or absence of physical defects and attempted correlation between sedimentation rate and physical condition made. Four patients with dementia praecox were found to have tuberculosis.

Results:

1. NORMALS AND CHECKS

Before beginning the study of sedimentation rates in which approximately 300 patients with various types of psychoses were examined, several normal controls were determined and various checks made. Thus (1), two rates were determined on the same blood from the same patients taken at the same time, (2) two rates on the blood from the same patients on different days and (3) rates on blood taken from patients with a syringe in the usual manner and that taken directly into a tube containing heparin without using a syringe. These were found to check within narrow limits. Chart 1.

2. BLOOD TAKEN FROM VARIOUS VESSELS

Arterial and venous bloods from the neck,(carotid artery, internal jugular vein) and from the arm, (brachial artery, basilic vein) of the same patient checked within 2 mm. per minute; no significant difference. Only two such cases were done but these gave consistent results. Popper and Kreindler report no significant difference in sedimentation rates on arterial and venous blood taken from the arm. Chart 2.

3. GENERAL PARALYSIS

The sedimentation rates obtained on 50 patients with general paralysis were increased in 78%. The degree of mental deterioration present did not appear to influence the rate *i. e.* those showing moderate deterioration presented the fastest rates. The physical condition of these patients appeared to influence the rate inasmuch as those in poorest physical condition showed rates over 0.60 mm. per minute which is definitely fast. None of these patients had any known acute infection or physical disease other than their luetic infection at the time the rates were taken. They were all patients who had had general paralysis for some time and had received extensive treatment. The latter factor may be the explanation for the normal rates which were present in 22% of the patients. Charts 3 and 4.

4. SENILES

Of the 50 rates obtained on patients with senile and arteriosclerotic psychoses 78% were increased. The degree of physical and mental deterioration did not appear to influence the rates. Five patients with senile psychoses and marked arteriosclerosis all presented rapid rates. However, it cannot be said that arteriosclerosis was the cause of the increased rates in these instances of senile psychoses since only 8% of the patients giving increased rates had any marked degree of arteriosclerosis. Likewise these patients had no acute infection or other physical disease at the time the rates were taken. Charts 3 and 5.

5. MANIC DEPRESSIVE PSYCHOSES

The rates on 50 patients with manic depressive psychoses were obtained; 63% showed increased rates. These patients had no acute infection or physical disease at the time the rates were taken. The physical condition appeared to influence the rates. Thus, all but two of those giving normal rates were well nourished and in good physical condition. On the other hand many with increased rates were also in good physical condition. The age of the patients apparently did not influence the rates nor did the type of psychosis present affect the rates. Charts 3 and 6.

6. DEMENTIA PRAECOX PSYCHOSES

The rates on cases of dementia praecox were found to be elevated in 60% of those examined, 154 in all. These were divided into various types according to clinical criteria which will not be gone into here. The following divisions were made: Hebephrenia, catatonia, paranoia, and simple. The rates apparently did not depend on the amount of mental deterioration since 75% of those showing advanced deterioration presented normal rates. Neither did they depend on the type of dementia praecox present. This is somewhat contrary to the findings of Goldwyn. In four of these patients tuberculosis was found. These all showed rapid rates. The rest of the patients had no apparent physical disease or infection. The physical condition of the patients did not appear to influence the rate. Charts 3 and 7–11.

DISCUSSION

In general, the figures obtained in the present study were confusing. The concensus is that the sedimentation rate becomes increased in three conditions: infection, tissue damage and pregnancy. None of the patients were pregnant; no infection that could be demonstrated by physical examination was found except in general paralysis and in a few patients with dementia praecox; and tissue breakdown such as that due to malignancy was not present. In spite of these negative findings, however, the rate was found to be increased in a majority (65%) of the instances. Various hypotheses for this increase were advanced. For example it was felt that poor nutrition and development might be the cause of an increased rate. Against this, however, is the fact that many in excellent nutrition and development presented increased rates. Marked pyorrhea at one time was felt to be the cause of an increased rate, yet 30% with pyorrhea showed normal rates, and 30% of the patients showing abnormal rates had no pyorrhea. Again, the degree of mental deterioration did not influence the rate. Attempts were made to correlate increased rates with other factors, such as, age, degree of arteriosclerosis, type of psychosis, etc., but without success. It was finally concluded that the sedimentation rate is rapid in many patients with mental defects, but for no other reason which we can, with our present knowledge, ascertain. This conception would of course tend to invalidate the present conception that the sedimentation rate is increased in only three conditions: infection, tissue breakdown, and pregnancy. It would also tend to diminish the general value of the test as a diagnostic procedure since an increased rate is shown in other conditions than these three.

CHART 1. *Sedimentation Rates. Checks on Method*

Patient	Diagnosis	Type of Check	Sedimentation Rate (mm. per min.)	Hourly Fall	Remarks
S.McD.	D.P.	Same Sample	(1) 0.31	(1) 6	Normal
			(2) 0.31	(2) 6	Normal
F.M.	G.P.	Different Days			
		9–10	0.38	18	Fast
		10–16	0.52	20	Fast
H.C.	G.P.	10–11	1.18	31	Fast
		10–16	0.91	20	Fast
H.L.	G.P.	10– 8	1.00	34	Fast
		10–16	0.95	34	Fast
W.B.	G.P.	10–11	1.53	46	Fast
		10–16	1.15	38	Fast
M.G.	D.P.	10– 8	0.67	20	Fast
		10–16	0.67	16	Fast
M.D.	D.P.	10– 8	0.63	22	Fast
		10–16	0.75	16	Fast
E.G.	D.P.	10– 8	1.10	22	Fast
		10–16	0.85	8	Fast
J.H.	D.P.	10– 8	0.25	13	Normal
		10–16	0.41	12	Fast
R.F.	G.P.	With syringe	0.50	5	Fast
		Without syringe	0.50	5	Fast

CHART 2. *Sedimentation Rates in Venous and Arterial Bloods*

Patient	Diagnosis	Sedimentation Rate (mm. per min.)	Hematocrit (vol. %)	Sedimentation Index (mm. per min.) (at 45 vol.)	Hourly Fall (mm)
A.B.	Manic depressive				
Carotid Artery		0.37	49.6	0.47	10
Int. Jug. vein		0.36	49.6	0.47	10
Brachial Artery		0.36	49.5	0.47	9
Basilic Vein		0.35	49.5	0.47	10
D.F.	Senile				
Carotid Artery		0.79	47.2	0.88	26
Int. Jug. Vein		0.78	47.4	0.88	26
Brachial Artery		0.79	47.2	0.88	26
Basilic Vein		0.78	47.4	0.88	28

CHART 3. *Sedimentation Rates in Patients with Various Psychoses*

Diagnosis	Number Cases	Normal	Slightly Increased	Fast	Over 1.00	Total Percent Increased
Senile psychoses	50	22%	24%	42%	12%	78%
General paralysis	50	22%	18%	26%	34%	78%
Manic-depressive psychoses	50	36%	28%	24%	12%	63%
Dementia praecox	154	43%	27%	20%	10%	57%
Hebephrenic type	45	38%	36%	22%	4%	62%
Paranoid type	52	38%	25%	25%	12%	62%
Catatonic type	25	36%	24%	24%	16%	64%
Simple type	12	50%	30%	12%	8%	50%
Type undetermined	20	12%	20%	20%	....	40%

CHART 4. *Sedimentation Rates in General Paralysis*

Patient	Age	CLINICAL CONDITION		Sedimentation Index (mm. per min.)	Hourly Fall (mm)
		Physical Condition	Mental Deterioration		
O.B.	35	Good	Mild	0.35	10
A.W.	35	Good	Mild	0.22	2
P.O'D.	39	Good	Mild	0.23	6
J.O.	45	Fair	Moderate	0.25	8
J.T.	50	Fair	Moderate	0.32	7
J.B.	55	Fair	Advanced	0.25	4
D.S.	58	Good	Moderate	0.35	18
A.L.	43	Good	Advanced	0.23	2
L.H.	54	Good	Advanced	0.30	10
R.D.	37	Good	Moderate	0.25	2
F.A.	40	Fair	Advanced	0.22	6
F.M.	45	Good	Mild	0.38	18
W.R.	60	Fair	Moderate	0.44	19
R.F.	45	Fair	Moderate	0.50	9
W.B.	39	Fair	Moderate	0.50	16
D.S.	41	Fair	Moderate	0.68	8
A.D'A.	40	Fair	Moderate	0.40	4
J.D.	61	Good	Advanced	0.42	11
G.K.	45	Fair	Mild	0.47	14
C.H.	70	Good	Moderate	0.43	6
T.M.	52	Good	Mild	0.88	28
S.S.	53	Poor	Mild	0.62	15
J.McL.	53	Fair	Advanced	0.82	26
H.L.	45	Poor	Advanced	0.98	34
B.M.	55	Poor	Advanced	0.80	20
W.J.	66	Fair	Moderate	0.74	10
L.B.	55	Good	Advanced	0.95	32
C.T.	49	Good	Moderate	0.62	22
W.W.	55	Good	Moderate	0.90	45
A.O.	60	Poor	Moderate	0.98	38
P.M.	32	Fair	Moderate	0.79	22
A.S.	46	Good	Moderate	0.90	14
G.H.	45	Fair	Moderate	0.94	32
H.C.	40	Good	Mild	1.05	25
J.M.	39	Good	Mild	1.22	26
C.Cu.	45	Fair	Moderate	1.00	30
C.Ca.	50	Fair	Mild	1.85	48
W.B.	55	Fair	Moderate	1.34	42
M.H.	45	Good	Moderate	1.00	10
W.Mc.G.	45	Fair	Advanced	1.08	36
M.T.	39	Fair	Moderate	1.20	28
J.M.	43	Fair	Mild	1.20	4
R.B.	20	Poor	Advanced	1.32	25
R.R.	45	Good	Mild	1.18	6
H.H.	63	Poor	Mild	1.60	40
M.L.	40	Fair	Advanced	1.50	50
J.P.	55	Fair	Moderate	1.52	32
G.W.	67	Poor	Moderate	1.32	32
F.A.	60	Fair	Advanced	1.40	51
J.H.	42	Fair	Moderate	0.50	9

CHART 5. *Sedimentation Rates in Senile and Arteriosclerotic Psychoses*

Patient	Age	Clinical Condition		Sedimentation Index (mm. per min.)	Hourly Fall (mm)
		Physical Condition	Mental Deterioration		
C.K.	55	Good	Advanced	0.35	6
P.G.	65	Poor	Moderate	0.19	2
J.A.	73	Good	Advanced	0.30	4
J.M.	70	Poor	Advanced	0.25	15
A.N.	49	Fair	Moderate	0.32	10
R.G.	76	Fair	Advanced	0.19	9
J.D.	75	Fair	Moderate	0.32	9
M.C.	68	Good	Mild	0.28	5
F.H.	77	Fair	Moderate	0.25	19
A.K.	64	Good	Mild	0.28	5
A.L.	70	Poor	Advanced	0.18	3
E.D.	75	Poor	Advanced	0.45	23
L.C.	66	Good	Advanced	0.40	10
P.C.	60	Fair	Advanced	0.38	11
J.B.	73	Poor	Moderate	0.48	22
L.M.	74	Fair	Moderate	0.48	21
E.S..	69	Fair	Advanced	0.55	15
J.T..	79	Fair	Advanced	0.48	30
J.H.	64	Good	Moderate	0.51	26
J.L.	60	Fair	Moderate	0.45	20
R.J..	57	Fair	Moderate	0.58	5
P.M.	66	Good	Moderate	0.42	13
J.J.O'L.	41	Good	Advanced	0.50	19
D.F.	70	Poor	Advanced	0.88	28
F.C.	79	Fair	Moderate	0.60	11
A.J.	77	Good-Art.	Advanced	0.95	38
A.M.	63	Good	Moderate	0.80	18
J.R..	60	Fair	Moderate	0.70	20
D.D.	80	Fair	Advanced	0.92	14
H.S.	78	Good	Moderate	0.90	22
J.M.	70	Fair	Moderate	0.78	34
S.P.	80	Fair-Art.	Advanced	0.72	34
J.W.	47	Good	Advanced	0.62	30
J.O.	60	Fair	Moderate	0.62	20
J.A.	73	Fair	Moderate	0.60	42
H.M.	60	Fair	Moderate	0.92	22
W.P.	71	Fair	Advanced	0.68	34
M.L.	75	Poor	Advanced	0.90	56
E.B.	60	Poor	Moderate	0.82	10
W.G.	68	Good-Art.	Moderate	0.61	11
P.G.	71	Poor	Moderate	0.72	5
M.G.	60	Good	Mild	0.90	28
P.H.	60	Poor	Moderate	0.95	38
A.S..	72	Good	Moderate	0.60	10
T.M.	67	Fair	Advanced	1.25	30
E.F.	67	Poor	Moderate	1.00	28
M.S.	78	Poor	Moderate	1.04	34
S.T..	81	Poor-Art.	Moderate	1.08	26
J.C..	50	Poor	Advanced	1.40	44
P.C.	64	Fair-Art.	Advanced	1.18	34

Chart 6. *Sedimentation Rates in Manic Dementia Psychoses*

Patient	Age	Type of Psychosis	Physical Condition	Sedimentation Index (mm. per min.)	Hourly Fall (mm)
P.L.	31	Mixed	Fair	0.20	3
J.C.	63	Depressed	Good	0.18	2
B.P.	30	Depressed	Good	0.35	5
W.T.	72	Manic	Good	0.31	12
J.F.	46	Manic	Good	0.20	3
M.O'T.	60	Depressed	Good	0.22	10
A.F.	30	Depressed	Good	0.24	4
G.S.	66	Depressed	Good	0.35	2
B.P.	20	Stuporous	Good	0.20	2
H.K.	22	Mixed	Good	0.20	4
J.C.	64	Depressed	Good	0.18	2
J.G.	21	Depressed	Good	0.18	2
P.H.	48	Depressed	Good	0.22	4
J.J.M.	70	Stuporous	Poor	0.30	5
J.V.	35	Depressed	Good	0.18	2
W.A.	45	Depressed	Fair	0.09	5
F.D.	69	Manic	Poor	0.58	9
T.F.	49	Stuporous	Good	0.23	14
N.L.	23	Manic	Good	0.28	12
A.B.	33	Manic	Good	0.47	10
A.H.	30	Depressed	Good	0.50	10
A.E.	35	Depressed	Fair	0.48	12
J.DeS.	55	Depressed	Good	0.49	12
L.B.	41	Manic	Good	0.53	16
H.S.	67	Depressed	Good	0.50	16
W.M.	60	Depressed	Fair	0.52	4
J.K.	47	Manic	Poor	0.42	6
A.C.	55	Manic	Fair	0.40	4
H.K.	75	Manic	Good	0.45	9
S.P.	47	Depressed	Fair	0.53	11
W.McC.	55	Manic	Good	0.52	20
J.C.	46	Depressed	Fair	0.51	14
S.L.	60	Manic	Fair	0.40	8
C.M.	40	Depressed	Good	0.70	14
H.B.	45	Depressed	Good	0.62	12
J.O'L.	70	Depressed	Fair	0.70	8
J.S.	35	Depressed	Good	0.66	18
R.H.	43	Depressed	Poor	0.92	24
O.G.	51	Manic	Good	0.63	20
J.G.	47	Depressed	Fair	0.98	36
L.C.	36	Depressed	Fair	0.78	14
P.B.	46	Depressed	Poor	0.80	8
E.R.	61	Depressed	Good	0.60	12
P.S.	65	Depressed	Poor	0.63	22
F.D.	69	Manic	Poor	0.59	9
J.H.	70	Manic	Fair	1.52	43
F.C.	61	Depressed	Good	1.02	26
G.B.	49	Depressed	Good	1.25	48
A.K.	65	Manic	Poor	1.25	30
D.W.	70	Depressed	Poor	1.29	34
A.J.	68	Manic	Poor	1.12	26

Chart 7. *Sedimentation Rates in Dementia Praecox — Hebephrenic Type*

		Clinical Condition			
Patient	Age	Physical Condition	Mental Deterioration	Sedimentation Index (mm. per min.)	Hourly Fall (mm.)
T.C.	29	Good	Moderate	0.28	10
A.McN.	30	Good	Advanced	0.25	3
J.B..	32	Good	Moderate	0.28	8
C.A.	32	Fair	Advanced	0.35	7
G.G.	28	Poor	Advanced	0.30	4
W.S.	37	Good	Advanced	0.32	15
S.McD.	29	Fair	Advanced	0.31	6
E.B.	31	Good	Advanced	0.36	12
J.H.	44	Fair	Advanced	0.18	5
J.P.	40	Fair	Advanced	0.21	10
J.H.	36	Fair	Advanced	0.19	7
W.J.	39	Good	Advanced	0.20	6
H.F.	41	Poor	Advanced	0.20	5
J.McC.	22	Poor	Advanced	0.12	3
P.McT.	37	Fair	Advanced	0.17	5
W.H.	38	Good	Advanced	0.29	4
S.S.	34	Fair	Advanced	0.48	7
T.O'B.	30	Good	Advanced	0.58	18
E.W.	32	Fair	Advanced	0.40	6
D.F.	26	Fair	Moderate	0.36	7
R.S.	40	Poor	Advanced	0.56	15
J.McG.	49	Fair	Moderate	0.45	16
M.C.	42	Poor	Advanced	0.42	22
J.G..	25	Fair	Advanced	0.42	9
Jo.G.	26	Good	Moderate	0.38	10
J.L.	35	Good	Moderate	0.55	7
M.K.	43	Good	Moderate	0.42	6
P.F.	28	Good	Advanced	0.45	11
S.G.	30	Fair	Advanced	0.45	11
J.D.	41	Good	Advanced	0.52	23
G.H.	46	Fair	Advanced	0.48	8
O.S..	32	Good	Moderate	0.49	8
G.B.	51	Poor	Moderate	0.63	14
R.B.	49	Fair	Moderate	0.60	26
J.J.W.	65	Poor	Advanced	0.91	13
J.B.	46	Good	Moderate	0.65	24
M.D.	24	Fair	Advanced	0.63	22
E.G.	38	Good	Advanced	0.98	15
J.P.	37	Fair	Advanced	0.69	22
A.B.	53	Good	Advanced	0.75	14
J.H.	46	Fair	Advanced	0.83	8
Z.W.	56	Good	Advanced	0.60	23
T.H.	32	Good	Moderate	0.71	19
R.B.	38	Fair	Advanced	1.24	28
J.H.	42	Poor	Advanced	1.50	42

CHART 8. *Sedimentation Rates in Dementia Praecox — Paranoid Type*

		CLINICAL CONDITION			
Patient	Age	Physical Conditions	Mental Conditions	Sedimentation Index (mm. per min.)	Hourly Fall (mm)
M.D.	50	Good	Mild	0.34	7
H.B.	35	Good	Advanced	0.16	7
A.B.	57	Poor	Advanced	0.19	6
W.C.	35	Good	Advanced	0.20	3
P.C.	44	Good	Moderate	0.20	4
A.McK.	75	Fair	Moderate	0.25	8
A.F.	35	Fair	Advanced	0.30	13
W.C.	48	Fair	Advanced	0.28	9
B.C.	30	Fair	Moderate	0.29	13
F.B.	43	Fair	Advanced	0.10	3
G.D.	46	Fair	Moderate	0.08	2
P.K.	44	Fair	Advanced	0.34	7
J.M.	42	Fair	Advanced	0.30	2
A.G.	51	Good	Advanced	0.10	6
H.H.	31	Good	Moderate	0.08	1
J.J.W.	44	Fair	Moderate	0.22	9
J.H.	45	Good	Advanced	0.30	9
J.O'B.	50	Fair	Moderate	0.18	2
J.Q.	52	Poor	Advanced	0.21	5
W.L.	45	Good	Mild	0.34	5
P.B.	53	Good	Advanced	0.43	9
G.B.	60	Poor	Moderate	0.43	18
A.H.	75	Poor	Advanced	0.57	16
B.S.	69	Poor	Advanced	0.50	17
H.B.	31	Good	Advanced	0.41	1
T.B.	34	Good	Advanced	0.41	6
C.G.	44	Good	Advanced	0.45	10
J.R.	31	Fair	Advanced	0.41	7
D.H.	53	Good	Moderate	0.42	2
J.McM.	57	Fair	Moderate	0.46	18
T.M.	42	Good	Moderate	0.39	9
G.D.	60	Fair	Mild	0.50	13
E.McD.	75	Poor	Advanced	0.39	16
M.McK.	40	Fair	Advanced	0.98	21
W.K.	43	Poor	Advanced	0.79	21
M.G.	35	Fair	Advanced	0.67	20
W.F.	31	Fair	Advanced	0.66	34
J.A.	36	Good	Moderate	0.90	27
M.C.	54	Good	Advanced	0.70	7
E.H.	35	Fair	Advanced	0.70	21
J.D.	71	Good	Advanced	0.60	10
J.Don.	60	Good	Moderate	0.68	28
N.E.	55	Good	Advanced	0.95	30
A.F.	30	Good	Advanced	0.86	17
A.B.	32	Good	Mild	0.60	9
D.K.	54	Good	Moderate	0.52	9
F.H.	55	Poor	Advanced	1.50	30
N.F.	35	Fair	Advanced	1.00	30
C.S.	40	Good	Mild	1.40	8
P.O'C.	40	Fair	Advanced	2.15	43
J.C.	52	Good	Moderate	1.15	21
J.H.	42	Good	Moderate	1.92	30

CHART 9. *Sedimentation Rates in Dementia Praecox — Catatonic Type*

		CLINICAL CONDITION			
Patient	Age	Physical Condition	Mental Deterioration	Sedimentation Index (mm. per min.)	Hourly Fall (mm.)
A.G.	33	Fair	Advanced	0.18	3
H.B.	48	Good	Advanced	0.17	3
H.L.	28	Good	Moderate	0.35	18
T.G.	31	Good	Advanced	0.35	12
G.S.	29	Fair	Advanced	0.10	2
J.McC.	62	Good	Advanced	0.29	14
H.H.	42	Good	Advanced	0.18	2
A.G.	28	Good	Advanced	0.20	6
J.J.B.	40	Fair	Advanced	0.32	5
H.D.	49	Poor	Advanced	0.43	18
N.C.	42	Good	Advanced	0.48	9
W.McC.	32	Good	Moderate	0.49	5
M.K.	31	Poor	Advanced	0.40	8
D.S.	42	Good	Advanced	0.43	11
M.C.	45	Good	Advanced	0.37	7
J.McD.	26	Fair	Advanced	0.83	17
W.G.	46	Good	Moderate	0.60	17
W.W.	42	Fair	Advanced	0.87	26
T.H.	30	Fair	Advanced	0.61	15
D.O'N.	43	Fair	Advanced	0.67	28
P.C.	51	Good	Advanced	0.71	13
A.G.	40	Fair	Advanced	1.02	25
H.B.	52	Poor	Advanced	1.03	30
A.C.	59	Good	Advanced	1.10	33
S.T..	30	Fair	Advanced	1.16	56

CHART 10. *Sedimentation Rates in Dementia Praecox — Simple Type*

			CLINICAL CONDITION		
PATIENT	Age	Physical Condition	Mental Deterioration	Sedimentation Index (mm. per min.)	Hourly Fall (mm.)
W.D.	28	Good	Advanced	0.15	11
W.F.	41	Good	Advanced	0.30	8
P.G.	23	Fair	Advanced	0.32	13
J.W.	29	Poor	Advanced	0.18	2
E.F.	41	Poor	Advanced	0.15	2
J.McC.	43	Good	Advanced	0.30	17
J.G.	36	Good	Advanced	0.44	12
O.S.	33	Good	Moderate	0.42	8
F.K.	44	Poor	Advanced	0.45	28
R.D.	36	Good	Advanced	0.65	19
G.F.	40	Fair	Advanced	0.80	14
J.S.	35	Good	Advanced	1.30	11

CHART 11. *Sedimentation Rates in Dementia Praecox — Type Undertermined*

Patient	Age	Physical Condition	Clinical Condition Mental Deterioration	Clinical Condition Sedimentation Index (mm. per min.)	Hourly Fall (mm)
P.B.	32	Fair	Advanced	0.17	5
S.S.	42	Poor	Advanced	0.27	6
J.J.	32	Fair	Advanced	0.30	8
W.McC.	49	Fair	Advanced	0.12	5
J.D.	51	Poor	Advanced	0.22	10
M.W.	69	Poor	Advanced	0.20	8
J.H.	31	Fair	Advanced	0.25	13
W.D.	32	Fair	Advanced	0.27	3
F.B.	30	Good	Advanced	0.22	5
J.B.	33	Fair	Advanced	0.20	7
J.McC.	35	Good	Advanced	0.10	3
H.M.	28	Good	Moderate	0.18	2
H.H.	31	Good	Advanced	0.46	10
H.K.	29	Poor	Advanced	0.50	9
H.S.	33	Fair	Advanced	0.50	5
D.N.	47	Good	Moderate	0.38	4
T.A.	38	Good	Moderate	0.70	24
J.K.	48	Good	Moderate	0.60	18
C.K.	29	Poor	Advanced	0.82	16
T.C.	67	Fair	Advanced	0.93	23
J.F.C.	63	Fair	Advanced	0.70	18

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WHITE HOUSE CONFERENCE
GROWTH AND DEVELOPMENT OF MENTAL HYGIENE

Summary of Seventeen Contributions as Presented by

DOUGLAS A. THOM, M. D.
Director Division of Mental Hygiene

INTRODUCTION

To those pursuing the various individual reports on mental growth and development, it will be rather striking that many of the important and fundamental issues are still in a controversial state and that we continue to deal with feelings and impressions which have not yet been substantiated by laboratory experiment, statistical data, or other methods of scientific research.

CONCLUSION

Despite our efforts to make a scientific approach to our material, we are still handicapped by a lack of techniques, standards, and norms with which to measure practically every aspect of mental life with the exception of intelligence; and, ofttimes we are still confused as to what we are really trying to measure.

This situation should not, however, be discouraging. The absence of scientific scrutiny of the material at hand may prevent our being dogmatic and may make continued controversy inevitable, but the fact that many of these issues are still considered in process of investigation indicates that the study of mental growth and development is in a healthy state. The abundance of enthusiasm, the ever-present atmosphere of optimism, and the record of real achievement brought about in a comparatively short time, should, moreover, stimulate and encourage workers in the field of mental science to greater efforts in the future.

Presented at the White House Conference on February 19–21, 1931

The various members of the Sub-Committee on Mental Growth and Development have made seventeen separate contributions which have been considered collectively for presentation to the Committee. Comparatively little new or unpublished material was included but this was not the function of the Committee, nor could it have been expected of any scientific group in the time allotted for the work. The effort was directed, rather, to organizing such facts as are accepted today in a manner that will render them useful to an intelligent and interested public. Much of this material will undoubtedly be revised and perhaps discarded during the next few years, yet for the moment it represents the efforts of those best qualified to write the history of Mental Growth and Development.

The material divides itself rather naturally into the following groups: (1) Mental Growth in Infant and Child. (2) Measurements and the Variations of Intelligence. (3) Development of Motor Skills and Language. (4) Behavior, Personality, and Habit Training of Normal Children. (5) Other Factors Influencing Mental Growth; *i. e.* Nutrition, Physical Development, Pre-Maturity, Structural and Functional Disturbances of the Nervous System. It must be remembered that the individual contributors were limited as to space and could include only the most pertinent material and that even this had to be scrutinized and edited in order best to meet the needs of the conference report as a whole. In the following report, therefore, I have been able to outline only briefly the trend of thought taken by the contributors.

I

MENTAL GROWTH IN INFANT AND CHILD

Although the mental and physical welfare of childhood cannot be considered altogether apart, our present concept of mental growth is still comparatively new. Unlike physical growth which can be measured by comparative observation of changes in dimension, bulk, and form, mental development must be measured by observation of the emergence of new patterns of behavior reaction in relation to age, physiological and anthropological factors.

Behavior development proceeds at a sufficient rate before birth so that even the infant born eight weeks prematurely has a fair chance of survival, and it continues at such a rate during the post-natal period that weekly and even daily increments of behavior may be observed. This development proceeds by successive stages which merge with each other almost imperceptibly and yet are sufficiently distinct to enable us to observe that during approximately the first forty weeks of post-natal life a high degree of organization of the patterns of perception, prehension, and manipulation takes place; that during later infancy, up to the age of two years, locomotion and language development is prominent; and that the period of early childhood, from two to six years, is marked by fundamental acquisitions in every field of behavior, — motor, language, adaptive, and personal social.

As these behavior patterns are so consistent and lawful in their emergence, sequence, and variation, they can be formulated in relation to age and other associated factors for the establishment of diagnostic indices by which the tempo, trend, and configuration of individual mental growth can be determined. These formulations are still in a rudimentary stage and normative criteria must be used with due clinical caution and supplemented with clinical judgment; moreover, as the status of development at a given moment is less important from the standpoint of child health and protection than the growth characteristics of the individual career, accurate determinations can be made only on the basis of periodic re-examination. Even with our present techniques it is, however, possible to make a diagnosis of many cases of mental defect, mental superiority and inferiority, and of conduct deviations in early life, and it is to be expected that with continued statistical and experimental progress, the prediction of behavior development will be possible.

Inasmuch as behavior is also a subtle and sensitive index of physiological and dynamic status, behavior norms may become the criterion for discovering and for supervising conditions of physical health and disease and their application need not be restricted to the diagnosis of maturity as such.

The study of behavior thus becomes of special importance to preventive medicine and particularly to preventive and supervisory pediatrics. Indeed, the pediatrician may be said to have a vested interest in infant behavior, for development, quite as much as disease, falls within the theory and practice of his profession. The whole tendency of modern science is toward concepts which stress and preserve the unity of the individual; and if pediatrics continues its present position as a regional specialty converging the resources of general medicine and biology upon infancy, it can scarcely avoid a fundamental reckoning with the problems of human behavior.

II

MEASUREMENTS AND VARIATIONS OF INTELLIGENCE

In contradistinction to mental growth, conceived of as embracing the development of the entire psychic life of the child, intellectual growth may be defined in terms of the child's ability to see meanings and think in terms of abstractions.

Within the past one hundred years extensive experimentation has been carried on in an effort to develop tests by which the general intelligence of the individual can be measured. The early tests — limited as they were to such elemental functions as sensory discrimination, perception reaction time, rote memory, and motor co-ordination — largely failed, the individual differences which they brought out correlating but slightly with intelligence as judged by ordinary standards. Toward the beginning of the present century, however, the shift in experimentation (made by Binet and almost simultaneously by Ebbinghams) to tests of imagination, attention, and comprehension, suggestibility, logical memory, language functions, common information, and ability to discriminate concepts, detect absurdities, and solve problems, proved successful beyond expectation. They are still the basis of the numerous adaptations and imitations in use throughout the civilized world today and have not only given us a means of distinguishing between the retarded and the superior, but have enabled us to know approximately the average mental age of maturity, the increment of growth to be expected in the individual, and the degree and type of education suitable for him.

The method of intelligence testing is essentially nothing more than a method of sampling the various intellectual processes and estimating the intelligence as a whole on the basis of these small samplings. To be of any use, therefore, such tests must (1) be adequate in extent as to give "reliable" scores; (2) be a sampling of processes really involving intelligence, — *i.e.* they must be "valid;" and (3) be interpreted with reference to established norms, if the results are to be of any significance.

These different kinds of tests are adapted to different purposes such as individual versus group testing, measurement of general versus special abilities, or of native endowment versus achievement.

Such tests have proved of incomparable usefulness —

1. In schools, to aid in classifying pupils and in deciding doubtful cases of promotion.
2. In vocational guidance, to determine the advisability of training for vocations requiring a certain minimum of intelligence.
3. In the study and treatment of the problems of individual children whether sub-normal, delinquent, or gifted.
4. In various industries, to eliminate those candidates who are below the required standard of mentality.
5. In sociology, to provide objective standards for the comparison of various groups.
6. In research in various fields.

In all of these uses the danger of misinterpretation of the test results must, however, be constantly kept in mind. The tests at best reach only certain aspects of intelligence, and in practical problems the determining factors may be special abilities or disabilities, or other aspects of personality, or even external circumstances; moreover, they measure "native" endowment only by inference and somewhat uncertainly; and the apparent definiteness of the numerical findings is likely to be misleading. Even the simplest tests can be reliably administered and safely and adequately interpreted only by persons with considerable clinical experience, as well as specialized academic training. Particularly in those cases in which an important decision with regard to the future of the individual child is involved, the test score should be thought of only as a point of departure to be supplemented by medical and social case history data, by tests of educational accomplishment and special aptitudes, and by further observation and study.

Mentally Superior Children

In a consideration of mental superiority, the distinction must be made between general and special ability.

Contrary to traditional belief, general superiority of intellect is today thought to occur in individuals who are also superior in other respects, as, *e.g.*, physical health, and social adaptability; that is, the intellectually superior child who is sickly, a poor mixer, or otherwise inferior is considered not the rule but the exception. The superior child may be expected to maintain his superiority in adult life and when he fails to do so the cause is usually to be sought in other than intellectual factors such as faulty emotional adjustment or untoward accidents.

Specialized superiority as, for example, in music or computation, seems to be less clearly related to other desirable qualities. The fact that special abilities are by no means perfectly correlated with general intelligence loses some of its significance in the light of observations without superior general intelligence special ability in some of these lines inevitably falls short of really great achievement.

Inferior Mental Development

Generally speaking, it is the higher grade of mental inferiority that is inherited, but the nature of its development in the individual *i.e.*, whether the rate of growth is abnormally slow, whether it is constant or tends to decrease, or whether the maturity level is abnormally low — has not yet been satisfactorily determined, and the ultimate course of development in the individual child can therefore not be predicted.

The development of pathological types and degenerative states is even less predictable, for here the irregularities are related to the specific nature of abnormality in each case, to the age at which the pathological lesion occurred, and to the initial hereditary endowment.

The irregularity of individual development is equally unpredictable in the borderzone group, for in later childhood these individuals fan out into several distinguishable types:

1. Individuals whose development slows up rapidly and ceases early and who ultimately rank as feebleminded.
2. Those whose development, though slow, continues far into adolescence and who finally rank as very dull normals.
3. Those who, even as adults, continue to be thought of as borderline, either because their general mental development ceases at that level or because while normal in some respects, they show themselves subnormal in others.

(A paper on "The Effect of Education upon Mental Development" and one on "The Relationship between Socio-economic Status and Mental Traits" have also been considered in this connection.) Slowly accumulating evidence seems to indicate that the child's mental development may be enriched and accelerated to a very material degree by the application of more effective methods of instruction.

That there is a relation between socio-economic status and mental strait was observed by Binet very early in the history of mental testing. From studies made among children classified according to parental occupations — both in this country and abroad — it has been found that in most respects children from the upper classes have the lead, particularly in language tests, while the children from the lower classes seem to have the lead in tests of motor ability.

The evidence as to a possible relation between socio-economic status and so-called personality or character traits is much less clear-cut. It is probable, however, that with the development of more adequate methods of defining and describing the factors involved, relationships not yet apparent will be established.

From the foregoing consideration it is apparent that many aspects of intellectual growth and development urgently require further study. The following might be mentioned as among the most obvious:

1. More exact definition of the sphere of usefulness of various intelligence tests.
2. Clearer discrimination of important special abilities and the development of tests with predictive value in these special fields.
3. More and better test procedures for the pre-school period including infancy and for the early recognition of gifted children.
4. The relation of general intelligence as well as special ability to various inherited and environmental factors.
5. The nature and course of inferior development.
6. The relation of personality traits to general intelligence, to socio-economic status, and to special achievement.
7. Additional norms, such as norms concerning the growth and development of the emotional life.

III

The Development of Motor Skills and Language

Individuals differ greatly in the speed, strength, and precision of their muscular co-ordinations. The magnitude of these differences and their persistence over long periods of training are sufficient to make them of first importance to the individual himself and to the teacher, coach, or employer who attempts to secure more skillful performers.

Infants engage in an enormous amount of motor activity much of which comes as the result of internal rather than external stimuli, and varies in amount with the different hours of the day and the proximity of execretory and nursing periods. Their behavior is characteristically complex and what are usually designated as reflexes appear to be outgrowth from the more complex mass activity. Considerable information has been accumulated as to the motor behavior that may be expected of the infant and pre-school child, but thus far no satisfactory motor index has been obtained.

Study of the motor behavior of the school child includes new problems dealing with general motor ability, specificity of skills, basic motor capacities and influence of training, and in adolescence, the interest turns toward the question of aptitudes and vocational success.

Studies on activities involving the co-ordination of muscles tend to show a fairly high correlation in activities involving large muscles, and a high degree of specificity of skills in activities involving small muscles.

The general findings seem to show that although practice and training improve motor performance, unless two different performances have elements or methods of procedure in common, there is usually very little transfer of training from one performance to another.

The *development of language*, one of the most complex of motor skills, has, in the past ten years, been the subject of an increasing number of studies dealing with the preliminary stages of vocalization as well as with the relation of language development to other phases of development.

Normally the understanding and use of language develop together and the age at which speech develops has a high correlation with intellectual development.

Disorders of speech may be classified as (1) delayed speech, (2) defective speech, (3) stuttering. Although delayed speech is frequently a symptom of general mental retardation, it may be caused through deafness, prolonged illness, or emotional factors. There is apparently a relationship between speech defects and disabilities in reading and various devices have been discovered which are successful in the training of non-readers.

It is interesting to note that although the papers on general motor skills mentioned handedness and eyedness as unimportant factors, the paper on language development emphasized left-handedness and the attempted changing over of the child to the use of the right hand as a cause of speech disorders. (This is undoubtedly due to the fact that the proportion of "converted sinistrads" in a group of children manifesting diverse motor difficulties would be relatively small as compared to the proportion among children manifesting language difficulties.)

Further study in these fields is needed (1) on the relation between motor behavior and intellectual development, physical growth, personality traits, and environmental factors; (2) on the relative significance of aptitude and training in industrial problems; (3) on a description of what really takes place in the simplest type of learning and on the relative efficiency of verbal as against visual instruction; and (4) on sound production and intonation of young children, and on language development in general.

IV

Behavior, Personality and Habit Training of Normal Children

The general significance of behavior as a means of measuring growth and development and the general trend of changing behavior patterns in the infant and young child have already been indicated. All through the period from childhood to adulthood, development in the normal child is marked by distinctive behavior reactions. The young child, for example, tries by make-believe to supplement or improve upon his environment, but as he grows older and distinguishes between real and unreal, he abandons his habits of pretense. The young child's ill-defined conceptions of kinship grow into an appreciation of the nature of his relationship to people; his early need for security gives way to a need for independence. In the course of adolescence he becomes interested in his own individuality and the fate of the "ego", and he begins to struggle for control of his maturing sex emotions. Throughout immaturity, the individual's behavior is characterized by an increasing ability to care for himself and meet his needs.

Personality — although a popular rather than scientific concept at the present time — may be regarded as the sum total of all the patterns of behavior manifested by the individual. Efforts to classify personality according to type or trait date back as far as the time of Hippocrates, but the present conclusions seem to be that (a) most individuals are mixed or intermediate in type, only the extremes being clearly differentiated; and (b) that, although there seems to be sufficient unity in individuals to enable us to judge their personality as a whole on the basis of certain traits, no objective basis for characterizing individuals in regard to particular traits has thus far been established. Nevertheless, great progress has been made in the study of personality within the last fifty years, through increasing recognition of the fact that the individual's behavior is determined not only by inherited equipment, but also by acquired characteristics.

The determinants having to do with acquired characteristics develop from environment and by repetition, specific modes of response may become habitual. Although habits, both good and bad, develop in the individual regardless of guidance they can be cultivated and encouraged or discouraged by training.

When, therefore, the normal child fails to pass through the successive stages of development marked by changing behavior manifestations, and persists instead in behavior which is characteristic of an earlier stage of development and which marks his personality as "childish," "immature," or, indeed, "irresponsible," the cause may be looked for in his early environment and training.

These factors are of the greatest importance in the early years of childhood and are, therefore, among the most important aspects of parent education. The parent supplies the early environment and is responsible for the training which determines the fundamental acquired characteristics projecting themselves into the child's later life.

The physician, by virtue of his relationship to the family, is already endowed with the authority which makes him the logical person to educate parents on these matters. If he fulfills his responsibility of supervising the growth and development of the child, he will not confine his attention to the physical organism nor to the immediate complaint, but will study the child as a whole, helping parents to meet their problems with reason and judgment rather than emotion.

That the medical profession has, on the whole, failed in this respect is perhaps nowhere better illustrated than in its attitude toward sex. The average medical mind has taken little interest in the role which sexual life plays in the growth and development of the human being, or in the complexities of behavior in which this form of energy expresses itself; and yet, more than any other member of society, the physician has a chance to lead parent education sanely in its problems along this line. He can help the parent to give simple, direct, unemotional answers to the curiosities of childhood; to understand and deal with episodes of exposure and the practice of masturbation; and to help direct the child's maturing sex energy into proper outlets. Logically, the control of these great issues of social health belongs in the hands of the medical profession, but it will not be placed there as long as the medical profession continues to be traditional rather than thoughtful in its attitude towards the problems of human beings.

V

Other Factors Influencing Mental Growth

The three contributions directly concerned with the relationship between physical development and mental development all bear witness to the fact that there is need for further research and statistical studies in this field.

Nutrition

It is generally agreed that there are practically no data available based on carefully controlled studies of the effect of faulty nutrition on mental development. The question of whether the tissues of the central nervous system are affected by malnutrition in such a way as to cause temporary or permanent damage with resultant observable changes in the individual's mental development, is answered by two outstanding and opposing views; One is to the effect that development of the central nervous system is either unaffected or accelerated by nutritional deficiencies; the other, that nutritional disorders are the cause of or are accompanied by mental dullness or retardation.

Statements from the various authorities, although confusing, are of interest: Spargo states that "there is no lack of testimony to show that low nutrition is the prime and most fruitful cause of mental dullness" but fails to state the source of his conviction. Spearman, reporting Dawson's work on malnutrition, believes there is an increase of fatigability rather than a decrease in ability. Holt finds that some children with coeliac disease are "mentally quite precocious" but tire easily, and Still points out there is a quaint precocity, which is apparent rather than real, and is due to constant association with adults.

Superficially, malnutrition may seem to be responsible for mental retardation when in reality it is not a primary factor and serves only to obscure the initial cause. This is illustrated in cases in which the child's living conditions, personal attention, and maternal care are so unfavorable and inadequate that he becomes apathetic and refuses to eat, to the point of serious malnutrition, his apathy at the same time becoming so deeply rooted as an habitual form of behavior that it may simulate true mental retardation.

An ideal study of the effect of malnutrition on mental development postulates:

1. More exact medical definitions of types of malnourished children.
2. Due consideration to hereditary and socio-economic factors which might have affected the individual's development independently of the malnutrition.
3. An attempt to study individuals during and after the period of malnutrition with careful retrospective study of development preceding the malnutrition.
4. Comparative analysis of the effects of malnutrition upon the various fields of development (such as motor development, the development of language, etc.)

This would be of particular interest in the study of children with coeliac disease where retardation of gross motor control alone is indicated.

5. Differentiation of the effect of malnutrition on mental development quantitatively and qualitatively conceived.

Physical Development and Prematurity

Although there is a general impression among physicians, educators, and others who have given some attention to the matter, that there is a close relationship between mental and physical development, and although the pioneer studies of the question lent support to this opinion, more adequate statistical appraisement of these earlier studies, as well as more recent investigations, have failed to show relationships sufficiently close to be of significance in dealing with the problems of individual children except possibly in the case of the low-grade feeble-minded.

There appears to be a correlation between mental development and the stage of ossification of wrist bones, and between general intelligence and dentition. The age of puberty seems to be slightly correlated with the grade of intelligence as well as with other indications of the general quality of the organism, such as height and weight, but these correlations are too low to be carried over to individual cases for prediction; moreover, studies of precocious puberty show that abnormally early incidence of puberty may have no demonstrable effect on intellectual development.

Reference should be made at this point to a statement occurring earlier in the report to the effect that studies of intellectually superior or gifted children revealed that the majority of these children were also superior in physique.

The influence of prematurity on mental growth should also be considered in this connection. There can be no simple, general answer on this subject, for prematurity of birth takes place under such a diversified array of conditions, that, at the one extreme, there is the certainty of permanent defect or early death, and, at the other, the full assurance of ultimately normal maturity. The various studies and investigations indicate that, biologically, age must be reckoned from conception rather than from birth. When it is so reckoned the cycle of growth of behavior is not greatly altered by the displacement of the date of birth, and the central nervous system, unless actually impaired, tends to mature in accordance with inherent determiners.

Up to the present time the outstanding contribution from the studies on the relation of mental and physical development has been the demonstration of a constancy in the individual rate of growth. Whether the individual's rate of growth in height and weight is the same as his rate of intellectual growth does not as yet appear. There is considerable evidence to indicate that the constancy in the rate of physical growth is more marked than that of intellectual growth; it is suggested, therefore, that if mental and physical growth are to be compared the physical measurements should represent a wider sampling, inasmuch as there is plenty of evidence to show that the body may grow in part rather than as a unit, and, as has been pointed out earlier, that children at birth are not at the same stage of somatic development.

Following are some of the lines of attack still open for investigation:

1. The ratio of the rate of mental to physical growth may prove to be constant for a given individual or for certain groups. Should this prove to be the case, a short series of repeated measurements carried out in the early years would serve as a basis for the prediction of the future physical and mental development.
2. Glandular secretions, diet and sunshine, have been demonstrated to affect physical growth but knowledge of their effect on mental growth (excluding pathological conditions) is vague if not entirely lacking.
3. Further neurological studies may at some distant time reveal a physical basis of intelligence.
4. Growth curves, with the various measurements reduced to a basis of common age may throw further light on the subject. (As the relationship between mental and physical development as shown on these curves is somewhat confused by the relation between both of these factors and chronological age, the variations from the age norm might well be expressed in terms of "mental months" and of "physical measurement months.")
5. When morphological types can be determined more accurately and have been further studied they may be of value in predicting physical development and possibly, in turn, mental development.
6. The extent to which the immature infant is actually immature from the standpoint of behavior is still a subject for further investigation.

From the material at hand, all that can be stated is, that, when groups are studied, there is found to be a positive but low relationship between intelligence, as measured, and the physical measurements studied. The correlation coefficients are so low and the amount of overlapping so great that for purposes of prediction they have no value.

Structural and Functional Disturbances of the Nervous System

The most frequent injury to the brain in childhood occurs in the process of birth and here diagnosis of even severe injuries during the acute stage is by no means infallible while attempts to establish diagnosis later are naturally open to question.

Birth injuries occurring either in the normal course of delivery or through necessary obstetrical interference are thought to account for more mental defect than any of the acute diseases or accidents causing cerebral damage. Such damage occurs with unusual frequency in three groups of deliveries, viz; first-born babies, premature babies, and babies delivered feet first. Real knowledge as to the incidence of all types of birth injury and resultant cerebral damage will depend, however, upon the collection of adequate post mortem data and this will not be possible until the present tendency to regard birth injury as an indictment of obstetrical method is abandoned.

Concerning acute lesions other than trauma, there is unquestionably a greater number of cases in which impairment of mental development is due to posioning (notably from lead in paint chewed from cribs or toys) than is generally recognized.

Of far greater importance, however, are the cases due to infections. The obvious danger in infections specifically attacking the nervous system (*e.g.*, epidemic encephalitis and cerebro-spinal meningitis) should not obscure the disastrous complications which may occur as a result of, for example, whooping cough, measles, and mumps.

Most doctors are relatively unfamiliar with the methods of recognizing acute diseases of the nervous system, aside from meningitis and poliomyelitis, and most neurologists see cases of this sort only after the acute process is over. Improvement in this respect will follow the steady improvement in neurological instruction in medical schools.

When the nervous system has been damaged as a result of injury or infection, it is probable that no repair takes place. This situation demands a type of reasoning not usually used by physicians. For, although progressive damage is not to be expected, and no disease exists, there is a disability present which should be described not only for the purpose of diagnosis but as a means of determining the extent to which the undamaged portion may be best utilized. Doctors must become sensitive to educational and psychological problems in order to avoid the disastrous errors in education and unnecessary mistakes in forecasting the future heretofore due to inadequate study of these cases.

PSYCHOLOGICAL HAZARDS OF THE ADOLESCENT IN INDUSTRY

By Olive A. Cooper, M. D.
Assistant to Director, Division of Mental Hygiene

There has been much interesting material written on the subject of physical hazards to which the early adolescent child in industry has been exposed, giving vivid presentations of the appalling physical handicaps sustained; but comparatively little consideration has been shown the mental hazards to which he is subjected, and their probable effects upon his later development.

It is an implicitly accepted premise today that lack of early preparation and training for life bring more unhappiness and failure than do many of our physical handicaps. This fact is borne out in many instances; let us take, for example, the case of a child who, through early illness, has been rendered infirm or perhaps seriously crippled. By means of suitable mental training, and the subsequent establishing of a proper point of view toward life, it is possible for him to carry on in a far better capacity than the physically robust child whose early mental training has been such as to render him inadequate and unprepared to face life. The first is equipped to meet the situation as it is and to deal with it accordingly, while the second is totally unable to do this and is ever seeking a way out which he so often finds in the role of nervous invalid. This last is equally as disabling as many of our most serious physical defects and in many cases more so.

If we expect well round adults, self-supporting, independent and capable of effecting harmonious adjustments to those about them, we must, at the proper time, give them the essentials that make for the desired end result. In other words, we cannot hope to produce adequate personalities in the absence of wholesome and efficient training; and to be assured of this end, we must seek those sources with the facilities for making the needed contribution. These, logically, should be found in the home and in the school.

Adolescence is an evolutionary stage in the life of an individual and refers to the transition from childhood into adulthood. Although impossible to set apart any well defined chronological range as marking this period, it is estimated approximately as being between twelve and twenty-two years of age.

It is a critical phase calling not only for careful and intelligent physical care but also painstaking mental guidance that will promote a congenial adaptation so essential when the time comes for the individual to emancipate from the home to take his place in society. It is a period of rapid growth in which we find many and varied mental changes taking place, outstanding of which are ideas and impulses which are not always conducive to wholesome development. There is a craving for expression, often at the expense of his own welfare and even that of those about him, a desire for adventure and above all, an earnest struggle for recognition. There are also outstanding at this period many instabilities in the physical, intellectual and emotional fields which if not expediently directed, tend to become permanent handicaps in adult life. Among them are such psychological factors as feelings of inadequacy, excessive self-sufficiency without ability to correctly evaluate abilities and disabilities, suspicion, distrust, a desire to dominate and lastly, an increasing feeling of independence which may be and often is quite out of proportion to the resources at hand.

Adolescence, because of the dangers it entails, should be as free from stressing responsibility as possible. Cares and employment that do not have educational direction back of them should not be considered as belonging to this phase, chiefly because of their probable lack of constructive value and the possible undermining influence they might have on the individual. Premature employment not only takes away his right to health and happiness but also deprives him of opportunities for a later successful vocational adjustment and efficient adaptation to life as a whole. The following case may illustrate not only the physical but also the psychological dangers of premature employment:

Phillip was the oldest of nine children in an American family. When he first came to our attention he was nineteen years of age, of normal intelligence but physically frail and complaining of constant feeling of fatigue and night sweats. Among the salient points elicited in the history obtained were the following: He started school at six years, got along well until he attained the fifth or sixth grade when he began to complain because he felt he had too much work to do at home which consisted in assisting in the care of the younger children in his family. He then decided that he could assume more family responsibility if he were able to contribute financially, and soon after this he found a job after school hours as delivery boy in a local grocery store. Later, he found a paper route, the income from which he supplemented by doing odd errands for neighbors. About this time his family noticed a marked dissatisfaction with school, and a lack of desire for normal contacts with boys his age. His chief interest seemed to be in his job and in learning how he might increase his income. He continued in his part-time job and school activities until the age of fourteen when he decided, against advice, to give up school and devote his entire time to working. After awhile he obtained a job in a battery station where he worked from eight o'clock in the morning until very late at night, sometimes as late as midnight.

The family noticed a definite change in his personality as time went on but were inclined to accept it as a normal phase of adolescence. He was self-sufficient, hard to manage, wanted to direct all family activities, and he showed utter disregard for all opinions not coinciding with his own. His increasing feeling of independence seemed to be blocking all chances for a wholesome and desirable personality development. He had no social contacts and showed no interest in acquiring them. His one and only goal was to obtain money.

Study of the case revealed an active tuberculous process for which specific recommendations were made, in the hope of arresting its progress. These the boy flatly refused to heed and made belittling insinuations regarding the diagnosis which he considered only as evidence of the lack of intelligence on the part of the physicians who made it. The family appealed to him to view the situation in the light of the future and implored him to accept hospitalization, as suggested. He met the issue with all the opposition expected of his inevitably distorted perspective. He became irritable, accused his family of taking sides with the physicians against him and flatly refused to follow medical routine, saying finally that he did not feel that they knew the situation as well as he did.

The last incident in the case occurred when patient, at twenty-one, finally succombed to the disease and was hospitalized as a dependent; disillusioned and embittered yet not knowing just where to place the cause of his failure.

This case pathetically reveals how a consequent distorted point of view and false sense of values, both gained by too early employment, resulted in the complete failure of a boy who might otherwise have gone through life happily and successfully had it been possible to substitute his desire for a paying job with more wholesome and constructive interests which would have been more productive in the end.

When one thinks of labor in terms of its effect upon the psychological development of the adolescent, particularly those at the fourteen or fifteen year level, one cannot make broad generalizations. He is forced to remember that each child is an individual and that there is a wide diversity in the constitutional make-ups of these children. What might serve the needs of one might be dire thereapy to another. Nevertheless, there are three fairly well defined groups of children whose pathways lead toward industry and whose individual cases call for careful deliberation regarding their future programs. At this juncture and in connection with these groups, there arise such questions as the advisability of urging the child to remain in school although his interest is elsewhere, the question of placing him in industry and subjugating him to the forces therein or lastly, that of permitting him to enter industry and supplement his work there with educational supervision. Every case calls for an individual decision which should be made only after due and deliberate consideration.

Outstanding of the groups mentioned is the one characterized by the child whose mental equipment does not permit him to profit by further academic instruction, and he is frequently referred to as being "manually minded." This is the type of child who not only profits economically by his instruction in vocational classes but who also gains a form of socialization which later becomes a distinct aid in his contacts with his employers and fellow workers. In addition to this, part time work is desirable here as in many other cases, a pay envelope being a help to self respect and very often a means of establishing the child on a satisfactory standing in his own home. All of this tends to build up an attitude which supplies a needed compensation in the absence of higher intelligence, attitude frequently being a greater determinant of success than ability.

John had never done well in school, always having just barely passed the grade or having been promoted on trial. When he reached Junior High School, it was noted both at school and at home that he was becoming a real conduct problem, as seen in his disobedience, his refusal to conform to any routine, and his manifestation of delinquent tendencies. His participation, with a group, in the theft of a bicycle and some other articles resulted in his being contacted with a psychiatric clinic.

At the clinic he was found to have meagre intelligence, insufficient to enable him to conquer the scholastic subjects assigned him. Arrangements were made for his attendance in a neighboring trade school where most emphasis was placed upon manual work, and an opportunity was given him for full expression in printing in which he had shown much more than average ability. This was particularly true as regards his lettering.

It was not long before his instructor found him to be outstanding in his ability to make artistic signs, posters, and so forth, and genuine recognition was soon granted him.

At the present time the boy is continuing in his education in the school and holding a part time job outside (as helper in a sign painting concern) for which he receives satisfying monetary compensation.

The change in the boys' personality is incredible. All of his time is given to self improvement, through suitable social contacts and work at the school, and he is most tractable and congenial at home.

This case illustrates how a threatened rebellion in this boy against school and society in general, and subsequent delinquency were averted by proper placement of him in a field for which he was better fitted. The money he received tended to build up in him a feeling of security and an attitude which served as a form of substitute for better intelligence.

The second group comprises those children who, although well endowed and fully able to do the regular scholastic work, are forced into industry at an early period because of economic stress in the home, or other adverse circumstances. The lure of money blinds them to the advantages of school, makes it appear as an impediment to economic progress, irksome, and as something to be avoided, rather than a stepping stone toward a happier and more securely organized adult life. It invariably happens that parents in these homes likewise have seen school as a financial hindrance. They have lacked the vision to see its broader and more advantageous aspects and to see it in the light of a preparatory center for life in all its phases. A child coming from a home of such standards goes forth into the economic field with little or no preparation for the task at hand and advances, believing himself able to meet all occasions. Actually, he is devoid of a constructive attitude, with his emotions and desires untrained as they are, and he is without the qualities that constitute economic success. His need for such traits as concentration, persistence, conscientiousness and other, foredooms him to failure. His performance of the job is imminently impeded and his industrial advancement seriously obstructed. The inevitable happens; he becomes disillusioned, dissatisfied and is obliged to seek outlet for his maladjustment and mental turmoil, and usually he finds it either by way of misbehavior or through the construction of a neurosis.

A third and certainly interesting group of children are those whose failure in the regular grade work cannot be accounted for on the basis of inferior endowment but rather through early unfavorable conditioning of the child to the school. It is regrettable that the children, in their unfortunate introduction to school, have built up a defense against instruction which makes their remaining impractical from all angles. Their rebellion is so strong and their associations with the school so distasteful that attempting to co-ordinate a paying job with vocational instruction under the educational system is quite impossible. The only avenue left for them seems to be industry at an early period, that they might acquire habits of industry and avert the possible building up of delinquent trends. This group constitutes a minority with a poor prognosis, due to faulty attitude existent from the beginning.

The fairly recent revolution in our educational procedure has been most encouraging in that its function and purpose are far different from what they were ten or more years ago; different in numerous ways, chiefly in that people are beginning to recognize children as individuals and not as a homogeneous mass able to respond favorably to one standardized program. They also appreciate that the outstanding function of education is to socialize the child and prepare him for the actual needs of life, rather than to cram him with academic subjects, as was the method of the older system.

Today the school is interested in the personal and social development of the child and in scholastic subjects only as they contribute to this end. It has learned of the fundamental difference in individuals and roughly speaking, has separated them into two large groups, the one composed of pupils with the academic mind, competent to grasp traditional scholastic instruction, and the other made up of those whose aptitudes lay not in the intellectual fields but rather in the manual occupations. It has tried to fulfill its obligations to the second group as well as the first, although not without difficulty, and in many cases with a sense of failure.

The boy of fourteen who expresses a desire to work should be instructed in relation to that desire. The forces behind it may not only be the incentive of the pocketbook but also may be an eagerness to receive recognition as an adult and as an essential personality in the household. When a boy's interest is outside school, subject failure usually ensues which in itself is a compelling motive for a child to go into industry. The same failure encountered in school often awaits him in industry, assuming he enters the field directly, without preliminary preparation. But given an opportunity in vocational training where he senses success and gains an understanding of his aptitudes, one finds an individual interested in achievement and no longer acutely aware of inferiority and failure. More than that, he finds a feeling of equality and confidence and an accompanying zealousness to do, in order to maintain his position in the group.

Out of this insight for the needs of the manually minded child came the birth of the vocational classes and continuation schools. The schools saw the folly of forcing a child into concentration on academic subjects when his interests were in the manual and more practical spheres and they foresaw the important place that vocational training would occupy in his future program.

Continuation schools provide the adolescent with broader training which industry, because of the nature of its organization, is unable to give. The educational system aims to teach him in such a manner as to sustain his interest in order that he will function as near his maximum efficiency as possible. Every effort is made to have him gather vision that he may look ahead for future possibilities, be able to evaluate them correctly, prepare himself for them and finally achieve them. Vocational training appreciates that above all else the adolescent must be taught adaptability since vocational fitness is as changeable as society itself, ever casting off old methods and taking on new; hence the need for the individual's readiness to meet the changes as they occur and ability to adjust to them.

One of the uppermost objectives in the educational scheme is to teach these children to use their equipment judiciously that they may reap its full value. It is interesting to note here that surveys of various industrial situations have shown that employees with inferior mental equipment have, under suitable training, been able to function at nearly one hundred per cent efficiency of their mental capacity, while others although having superior equipment were unable to function anywhere near this degree of efficiency, chiefly by reason of poor habit formation and consequent faulty attitudes.

One cannot over-emphasize the importance and need of a wholesome attitude, one that enables the child to be receptive to instruction, tractable and congenial with those with whom he associates. A child who enters industry from a household of friction (as is the case in many homes where economic stress is a predominating factor) without the guidance afforded by vocational school is very likely to enter one of the so-called "blind-ally" jobs where the regular pressure, together with the lack of preparation are the cause for his failure. His lack of financial progress impresses him with the meagerness of his capacity as a workman and we may find him building up reactions which will serve as large stumbling blocks in any possible road to further development and advancement.

If a child, in his work, can be made to appreciate what he is doing in relation to the finished product, if he is taught the reasons for each step, his work is less apt to be monotonous. He views it with interest and enthusiasm, he sees his position as a constructive one and as an essential part of the organization. This feeling of usefulness makes for a wholesome attitude and satisfactory vocational adjustment.

Every adolescent should be doing and making, but only under the supervision and guidance of those whose chief aim is the development of the individual as a whole, with equal attention being given to his physical, intellectual, social and economic welfare. His occupation should not be considered in terms of dollars and cents but rather in terms of his future development.

The chief aim of the educational system is to prepare the child for the needs of later life; that is its one and only function and all time is devoted to it. Industry, on the other hand, is founded on a diametrically different basis. It aims to produce but not in terms of childhood development. Were it by chance to undertake this last as a responsibility, it could do so only at the expense of the constantly professed efficiency. This would be not only impractical but highly improbable. Adequate child training, because of its obvious encroachment upon industrial policies and the adulteration of efficiency it would involve could not be a logical part of an industrial program. Labor factions see the child as a wage earning unit, while education sees him in altogether a different light. To the latter he is far more than that. His ability to earn is but a small portion of his preparation for life. They see him as a future member of society and realize keenly that the greater determinant of his success is his ability to live happily among those with whom he mingles. Their efforts are exerted in the direction of developing those essentials by means of which he may reach the desired goal. This form of development cannot be looked for in any organization unequipped to give it and where their aims are in another direction.

NOTE ON THE MASSACHUSETTS STATUTE PROVIDING FOR ASCERTAINING THE MENTAL CONDITION OF PERSONS COMING BEFORE THE COURTS OF THE COMMONWEALTH

By Winfred Overholser, M.D.

Assistant Commissioner of Mental Diseases; Lecturer, B. U. School of Law; Assistant Professor of Psychiatry, B. U. School of Medicine.

Within the past year a decision of interest both to lawyers and psychiatrists has been handed down by the Supreme Judicial Court of the Commonwealth of Massachusetts, (Sullivan v. Judges, Mass. Adv. Sh. (1930), 1143) upholding and interpreting a provision of the law which is both unusual and valuable. This statute so passed upon was originally introduced by the Hon. B. Loring Young and enacted as St. 1918, Chapter 153; it is now found as G. L. Chapter 123, Section 99. The section in full follows:

> "In order to determine the mental condition of any person coming before any court of the Commonwealth, the presiding judge may, in his discretion, request the department to assign a member of the medical staff of a State Hospital to make such examinations as he may deem necessary. No fee shall be paid for such examination, but the examining physician may be reimbursed for his reasonable traveling expenses."

Several points in the phraseology merit attention:

1. The power is discretionary and rests with any court of the Commonwealth.
2. The statute applies to "any person coming before the court" — certainly, therefore, at least to the plaintiff or defendant, though probably not to a witness.
3. No specification of the type of case to which the law is applicable is given.
4. The function is exercised, at the request of the court, directly by a professional department of the executive branch of government, namely the Department of Mental Diseases.
5. The examinations made under the statute are a gratuitous service rendered to the court by the Department of Mental Diseases.

It may appear likely that a law embodying such sweeping powers and such unusual means would have attracted attention and have been employed to a considerable degree. Such was not the case, however, and the law's desuetude was emphasized when in the compilation of the General Laws it was placed in the subdivision of Chapter 123 entitled "Insane Prisoners, etc." By this classification, attention was directed to it only as affecting defendants in criminal cases, provision for whose examination by experts appointed by the court has existed (G. L. Chap. 123, Sec. 100) since 1849. Furthermore, in 1921 the now famous Briggs Law (G. L. Chap. 123, 100 A) was enacted, providing for the automatic mental examination before trial, of a considerable group of defendants.

The law, as a matter of fact, had been used very little before 1929. In 1927 and 1928, for example, only thirteen and eighteen requests respectively were made of the department. In 1929 there were twenty-three, and in 1930 forty-one. All of these cases were criminal until in April 1930 a Probate Court requested the examination of the libellee in a suit for divorce. Later in 1930 two other civil cases (one divorce, one tort) were among those in which the court requested examination. The large increase noted in 1930 was largely due to a determination on the part of the justices sitting in the Superior Court for two of the larger counties to utilize existing state facilities rather than to employ experts on a fee basis as had formerly been the practice. Such a position is entirely logical and proper, and is illustrative of a desirable co-operation between the various branches of government. Perhaps the most startling feature of these figures is that it was only in an infinitesimally small proportion of the cases coming before the courts that mental disorder was suspected to exist in one of the parties. It is almost certain, from studies of persons committed to correctional institutions, and from the results of examinations under the Briggs Law, that many more than forty-one of the parties in the more than two hundred thousand cases dealt with by the courts in a year are suffering from mental abnormality of sufficient severity to warrant special attention and dealing.

A brief resumé of the operation of the law during the year 1930 may be in order here. As has been already stated, forty-one requests were received by the Department. These were made by fourteen courts, superior, district and probate. The superior court of one county made 11, and that of another 10. The largest number received from a district court was 6; this particular court has consistently employed the advice of the department for several years. Two requests emanated from Probate Courts, and one from a civil session of the superior court.

The types of cases in which the law was used were varied indeed. The list follows:

Sex offenses (incest, indecent assault, indecent exposure)	7
Assault and Battery	6
Larcency and attempted larcency	5
Breaking and entering	4
Robbery	2
Assault with a dangerous weapon	2
Threats	2
Blackmail	2
Liquor offenses (exposure 1, sale 1)	2
Drunkenness	2
Idle and disorderly conduct	1
Purjury	1
Arson	1
Non-support	1
Divorce (libellee)	2
Tort (plaintiff)	1
	41

Of the forty-one defendants referred, forty were examined, one having been committed to a mental hospital before the request was received. Of the remaining forty defendants, five were found to be psychotic, (that is "insane,") three mentally deficient (feebleminded), and in thirteen instances sufficient abnormality was detected to justify a recommendation that the defendant be committed to a mental hospital for observation, It is to be expected that the proportion of abnormals would be thus high, since it was the observation by the court or the report by some interested person, of peculiarity of conduct on the part of the defendant, that led to the making of the request for examination.

Why the courts did not uniformly follow the advice given in these cases where the defendant was found mentally abnormal to an appreciable degree can only be conjectured. It may be that in some cases an attempt to speed up the court machinery resulted in the overlooking of the report; in one case, at least, the court lost jurisdiction by reason of want of prosecution; or the court may have considered the mental disorder insignificant and sought the easiest way out by committing the defendant to a penal institution trusting that whatever in the line of mental examination and treatment was needed would be cared for there. That the latter procedure is hardly fair to the institution or prisoner probably need not be argued here; the existence of mental hospitals and of facilities for committing thereto is ample evidence of the commonwealth's intent to care properly for the mentally deranged, even though they be denominated criminal. At any rate, eight of the twenty-one found abnormal were committed to mental hospitals, and one to the Department for Defective Delinquents. — Nine out of 21. or 42.8%.

The disposition of the remaining criminal cases found abnormal follows:

State Prison (parole revoked)	1
State Farm	1
Probation	3
Reformatory	1
House of Correction	1
Filed	1
Dismissed for want of prosecution	1

As to the divorce cases, one (libellee feebleminded) was dismissed and the other (libellee insane) is still pending. In the civil case, a guardian ad litem was appointed for the plaintiff. As this case was the cause of considerable litigation, and went up to the full bench of the Supreme Judicial Court of the Commonwealth, a few details are in order.

Early in 1930 a petition for a writ of prohibition was brought in behalf of one Nora F. Sullivan, a plaintiff in an action of tort, to restrain the Justices of the Superior Court from requesting the Department of Mental Diseases to make a mental examination of the plaintiff under Section 99. The injuries alleged in the case were received in 1916, but the litigation had dragged on through the years, with many changes of counsel for the plaintiff. The latter had been a patient in the Boston Psychopathic Hospital, and the defendant's counsel, suspecting her to be mentally deranged, filed a motion for examination. After the writ was denied, examination showed the plaintiff to be insane, a guardian ad litem was appointed, (G. L. C. 201, sec. 34) and the fourteen year old case was promptly settled.

The petition was ordered dismissed by a single justice, and on May 30, 1930 the full bench affirmed his order overruling the exceptions. (Sullivan v. Judges, Mass. Adv. Sh. (1930) 1143). After finding, by implication, that the plaintiff in an action assigned for trial, though not actually on trial, is a person coming before the court, the decision says:

"This statute, although placed in the General Laws under a heading "Insane Prisoners, etc., " is equally applicable to civil as to criminal cases. That is apparent from the original act which was St. 1918, c 153. It was there phrased in general terms and was not confined to criminal cases. The inclusions of this provision in said s. 99 did not work any change in its scope. Main v. County of Plymouth, 223 Mass. 66. In this respect the case at bar is distinguishable from Boston & Maine Railroad v. Billerica, 262 Mass. 439, 449. The statute provides a simple, efficient, and impartial method of determining a subject which apart from the statute is within the jurisdiction of the court. Whenever genuine question arises in the trial of a cause whether a party to an action is capable of conducting the litigation by reason of minority or mental incapacity, it is the duty of the court to ascertain the fact and in case a finding is made that such incapacity exists to cause some competent person to be appointed to conduct the litigation. As was said in Welch v. Fox, 205 Mass. 113, 114; "No citation of authorities is needed in support of the propositions, first, that a court may, and indeed should, appoint a guardian ad litem for a litigant in a case before it whenever by reason of minority or mental unsoundness one is required; and second, that whenever the question arises . . . whether such a guardian is required the court has jurisdiction to consider and decide it." Denny v. Denny, 8 Allen, 311. The statute provides highly appropriate machinery for the performance of a general duty resting on the court. The circumstance that attention is directed to the mental condition of a party by the opposing party in the litigation is no reason why the court should not consider and cause to be investigated the matter, and act in accordance with the finding made. The single justice rightly ordered the petition dismissed.

Exceptions overruled."

The right of the courts in criminal trials to appoint experts is probably one that has existed from remote times. Wigmore refers to a case in 1353 in which surgeons were summoned by the court to testify, and he points out that up to the latter part of the 18th century they were considered as amici curiae. From that time on, with the changes in court procedure they were introduced by the objective parties, as were witnesses to the jury. The partisan nature of expert testmony, and its susceptibility to bias, however, early gave rise to criticism and suspicion which were freely voiced by the courts. (For example. "Hardly any weight is to be given to the evidence of what are called scientific witnesses, they come with a bias on their minds to support the cause in which they were embarked." Tracy Peerage Case, 10 Cl. & F. 154 (1843). "Experience has shown that opposite opinions of persons professing to be experts may be obtained to any amount" — Winans v. N. Y. & Erie R. R. Company, 21 Howard 88.

The use of partisan expert testimony is still general, as is dissatisfaction with its results, and one suggested remedy for the defects of the present system has been a return to the former practice of the appointment of experts by the court. It may well be argued that this right of appointment is inherent, as being one of the appropriate instruments for the performance of their duties" (In re Peterson, 253 U. S. 300). This was held to be the case in State v. Horne, 171 N. C. 787, where the court said — "It has been the immemorial custom of the trial judge to examine witnesses who are tendered by either side whenever he sees fit to do so, and the calling of a witness on his own motion differs from this practice in degree and not in kind." . . . "This practice is especially allowable in the matter of an expert witness, originally regarded as amicus curiae and called, generally, by the court." Approved in Roth v. Moeller 185 Cal. 415. Certain states have expressed this right by statute, Massachusetts, for example, enacted legislation in 1849 (St. 1849 c. 68) authorizing the court to appoint mental experts in a criminal case or to commit the defendant to the State Lunatic Hospital at Worcester for observation. Wisconsin in 1921 (Wisc. Statutes (1929 ed.) Sec. 357, 12) authorized the appointment by the court of experts in any subject when their testimony would seem advisable. This statute was upheld in Jessner v. State, 231, N. W. 634, in a long and well stated decision. A similar practice is legal in Virginia (Tugman v. Riverside and Dan River Cotton Mills, 144 Va. 473) and the Supreme Court of Kansas (Meek v. Wheely, Kelly v. Hagny Inv. Co. 251 Pac. 184) has upheld the right of counsel to argue to the jury the special weight to be attached to the evidence of a mental expert. Louisiana (Act no. 17, extra session 1928) even went so far as to make the findings of a commission final, but the law was declared unconstitutional (State v. Lange, 123 So. Rep. 639.)

On this point, the courts are not entirely unanimous. In 1905, for example Michigan (St. 1905, c. 175, Sec. 3) provided for the appointment by the court of "suitable disinterested experts" in homicide cases. This provision was declared unconstitutional in 1910 (State v. Dickerson, 164 Mich. 148) on the grounds that the power of selecting witnesses is not a judicial, but an administrative act, and that appointment by the court would give an unfair weight to the testimony of the expert, so appointed. This decision has been followed by Illinois more recently in People v. Scott, 326 Ill. 327. According to Wigmore, the weight of authority is against the reasoning and conclusions expressed in these decisions, (5 Wigmore on Evidence Sec. 2484, p. 436.)

The Briggs Law of Massachusetts mentioned above, is of interest in this connection. This law provides for a routine mental examination of certain classes of accused persons by the Department of Mental Diseases. The examiners are appointed by the Department, not by the court, but this report is available to the court, the probation officer, the district attorney and the counsel for the defense. The desideratum of neutral and competent advice is thus received, and in addition the likelihood of overlooking defendants who may be suffering from mental disorder is much reduced by the automatic feature (see Overholser, W. "Practical Operation of the Mass. Law Quarterly, No. 6 (Aug. 1928); "Psychiatry and the Massachusetts Courts as Now Related", Social Forces, vol. 8, no. 1, Sept. 1929).

If the problem of obtaining and presenting impartial expert evidence in examined cases is difficult, what is the situation with regard to civil proceedings? As Mr. Henry W. Taft ("Opinion Evidence of Medical Witnesses," 14 Va. Law Review 81) has ably pointed out, the state, which is a party in criminal proceedings, stands more in the position of an umpire in civil cases, and as a result is less clearly able to introduce its own witnesses. The most sweeping provision for the obtaining of mental expert evidence in civil cases is found in Section 1871 of the California Code of Civil Procedure, (enacted as St. 1925, c. 156). This statute provides that in civil or criminal cases the court may on its own motion or on that of either party appoint one or more experts whenever it appears that expert evidence is or will be required by the court or any party. Furthermore, the court may fix the compensation of these witnesses, while experts called by either side are allowed ordinary fees only, and the number of experts called by any party may be limited by the court, The Supreme Court of California by inference, at least, upheld this law in People v. Cornell, 203 Cal. 144, and further held it proper for the court to inform the jury of the weight to be given to the observations and opinions of the expert appointed by the court. (See also People v. Spraic, 262 Pac. 795; State Bank v. Castro, 287 Pac. 559; In re Hastings' Estate. 274 Pac. 973). If the object of litigation be what it purports to be, namely to present the truth, this California provision deserves consideration. Even though appointment by the court confers no mantle of omniscience upon the expert, he does not labor under the burden of bias and the imputation of venality. The statute is being used constantly in various types of cases (see Oscar C. Mueller, "The Expert" Pub. Los Angeles 1929).

If some doubt appears to hover about the procedure of having mental experts appointed by the court in civil cases to testify on such matters as injuries, handwriting, real estate etc., there seems to be general agreement that the mental incompetency of parties to litigation is of serious concern to the court. The doctrine is stated in 32 Corpus Juris, 569, as follows:

"It is the policy of both the legislatures and the courts to confer ample protection to the rights and interests of insane litigants. The courts ordinarily have inherent right and are in duty bound to do so." . . . (Sec. 592). "Whenever it appears that a party to the action or the suit not under guardianship is insane, the court may and should inquire into his mental condition for the purposes of the particular suit, in order to protect his interests by the appointment of a special guardian or guardian ad litem or next friend to prosecute for him" . . . Sec. 593. "While the appointment may be made upon motion ordinarily it is made by application to the court by a friend, or relative or by one of the parties to the action, alleging sufficient facts to warrant the appointment."

Those general principles are followed in the decisions cited in Sullivan vs. the judges, namely Denny v. Denny 8 Allen 311 and Welch v. Fox 215 Mass. 113. The same rule is laid down in still another Massachusetts case (not cited in the Sullivan decision) Hermanson v. Seppala, 255 Mass. 607. Several decisions of other jurisdictions emphasize the fact that an insane or otherwise incompetent litigant is to be dealt with as a "ward of the court", and as one who is to be zealously protected. — Austin v. Bean, 101 Ala. 133, McCalley v. Finney, 198 Ala. 462; Feldott v. Fetherstone, 290 Ill. 485, Wurster v. Armfield, 175 N. Y. 256; State ex rel. Happel v. District Court, 38 Mont. 166.

The manner in which the fact of the litigant's insanity shall be determined is in most states apparently not specified. Presumably affidavits must be presented to the court, these not infrequently emanating from a source (relatives or friends of the party involved, or his opponent), which may be suspected of bias. In the Massachusetts statutes relating to the appointment of guardians ad litem (G. L. c. 201, sec. 34) no detailed provision is made for the determination of the disability alleged. The statute permitting the court to call upon the Department of Mental Diseases to make examination and report provides, as the Supreme Judicial Court well said "A simple, efficient, and impartial method of determining a subject which apart from the statute is within the jurisdiction of the court."

It seems reasonable to believe that when the bench and bar of the Commonwealth become fully apprised of the scope and practical usefulness of this law, it will have a wider sphere of application than has hitherto been the case.

SOME OBSERVATIONS ON CRIME AND CRIMINAL BEHAVIOR.

BY EARL K. HOLT, M. D.
*Superintendent Medfield State Hospital.**

This voluminous document is in reality an instrument of twofold purpose. It is a lecture and an intelligence test. It will be my privilege to give the lecture but the psychometric test will be yours, and the intelligence quotient will be in inverse ratio to the length of time required for you to go to sleep while the paper is being presented.

Sometime subsequent to my acceptance of your invitation to be present at this meeting, I received a communication from your secretary on letter-head stationery, showing a rather formidable list of distinguished speakers who have appeared before you at various times during the past few years. On looking over this list, containing the names of psychiatrists of not merely local but of national and even international reputations, it occurred to me that surely every conceivable phase of the subject must have been presented to you in great detail, and from nearly every possible angle. I was decidedly in a quandary as to what I might contribute to your organization after these years of repeated exposure to erudition and learning from such authoritative sources. It reminded me of the situation wherein two men arranging a meeting, agreed to come together at a certain corner. If one arrived first, it was arranged that he should write his name on the wall, but if the other got there first, he was to rub it off. I found myself very much in the position of the late arrival, — the others had been here ahead of me and already rubbed it off, leaving me with a real problem in attempting to bring to you a message of interest and at the same time not merely a repetition of what has already been said here repeatedly and, no doubt, much more effectively than I could say it.

I have sometimes wondered just why there is so much interest in psychiatric discussions and such willingness on the part of the public to attend meetings where a psychiatric paper is to be presented. I have been tempted at times to believe that possibly this interest is in part due to the uncertainty as to just what psychiatrists may say. The establishment of the psycho-analytic school of thought with its unconscious mind, its libido, its ego, id, and complexes, has resulted in the postulation of so many bizzare and peculiar theories that one can never predict what the next innovation in psychiatric thinking will be. The responses elicited by some of these rather amazing theories have varied greatly. Some of us have been more or less amused and tolerantly entertained, and some of us have been startled and shocked, or even disgusted, while others have revelled in a secret satisfaction over an unconscious wickedness that was never suspected till the psycho-analyst opened our eyes by showing how some innocent action or idea of ours accomplished in an attenuated and palatable manner the satisfaction of immoral yearnings unknown, unacknowledged, and inadmissible to our consciousness, except in this disguised form.

An extreme reaction toward psychoanalytic ideas was shown by a pediatrician who recently spoke in Boston on the menace of psychiatry. There was one remark made during this address worthy of comment before such an audience as this, especially interested in psychiatric problems. In referring to one of the "pets" of the psycho-analysts, the oedipus complex, the speaker said that this concept nauseated and disgusted him, and in all his experience he had never observed an oedipus complex. Coming from a pediatrician, with years of extensive practice, the observation that he has never observed an oedipus complex is a proper and valuable statement. Its value is limited by the fact that he himself is not psychiatrically minded or trained, but it may be accepted as his observation. An oedipus complex is discovered by methods of observation not always employed by the pediatrist, no matter how competent.

The argument, however, that the idea of the oedipus complex nauseated and disgusted him, has no place in scientific thought. Any theory may be set aside after impartial investigation has shown it to be faulty; but any hypothesis honestly proposed as a contribution to our understanding of problems of behavior or to our understanding of psychological mechanisms deserves fair, dispassionate, unprejudiced consideration. We are not justified in obscuring the situation at the start by rejection, because of feelings of subjective dissatisfaction and bias.

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*This paper was presented before the Menssana Club of Reading Mass., April 6, 1931. At the time Dr. Holt was Director of the Division for the Psychiatrict Examination of Prisoners.

Some years ago, I had slight contact with a pertinent case. A certain prominent business man became estranged and separated from his wife, because of an extreme attachment between herself and her son. There was overt love-making between this woman and her son, finally reaching a point sufficient to establish definite antagonism between the husband and wife. The eventual solution was the establishment of a separate home where the mother could live, and have the son with her part of the time. One day during one of the sons' visits, the mother was murdered, and her sex organs torn out and mutilated. The son went to a State hospital.

There are many parallel cases, and plenty of others that are similarly distressing. Such a case does not demonstrate the existence of the oedipus complex. But if investigation should point to the oedipus complex as the most rational explanation, I have no right to disregard or reject the theory on the ground that it offends my aesthetic feelings, any more than I could deny that this episode ever occurred, because the gruesome picture of this son slaying his mother and tearing at her body is an afront to my aesthetic senses also.

In any case, however, no matter what has been our true reaction to these unusual philosophies, they have always been interesting and have left us in a state of uncertain expectancy wondering what will come next. The work of Freud, seriously undertaken, assiduously pursued and critically checked by him, has given rise to numerous investigations and speculations, and the resultant mountain of literature on the subject has contained countless theories and conclusions, some valid and some invalid, some based on careful and searching investigation, and some on the most palpable guess work and suspicion. If there is any lurking suspicion that this evening's discourse would be devoted to the elaboration of some new and strange psycho-analytic curiosities, I feel that the results will be disappointing. The new offspring of the psycho-analytic philosophies appear with sufficiently alarming frequency already, and I feel no urge nor necessity for any attempt on my part to increase their number.

It was originally suggested that the meeting this evening should be devoted to a discussion of epilepsy. No doubt, this subject would be interesting to your group. A disease which has been known for over three thousand years, probably as old as man, subjected to unlimited study and research investigations without any proportional results in terms of effective treatment and prevention, it has affected our religious, cultural, and philosophical development. At times epileptic manifestations have been interpreted as resulting from possession by evil spirits, and the victim has suffered accordingly. In other instances, the spells have been interpreted as evidences of genius or as proofs of divine power.

Although the usual life history of the epileptic is an unhappy story of progressive deterioration and of mental decay, there are exceptions to this rule, and in a few instances, epilepsy seems to have co-existed with superior performance. The Emperor Caligula, Julius Caesar, Mohammed, St. Paul, and others, are said to have been epileptic, although the facts are not absolutely conclusive in all of these cases. Napoleon, who has been regarded by some as epileptic, seems to me to have been so considered on inadequate grounds. In truth, Napoleon was almost an ambulatory medical museum. Undersized, of inferior physique, beardless, skin of feminine texture, pulse retarded, a human frigidaire, with a temperature of 94–95. and showing general symptoms of pituitary dysfunction, he was afflicted for years with a gastric disorder, which recurred at irregular intervals, and often caused him to cry in pain. It is said that at times, particularly under stress, when he showed little other evidence of strain, he was afflicted with a twitching of certain of his muscles. A little more attention by his physician during the period of exile would have yielded valuable information concerning both the medical and intellectual nature of this enigmatic character. But I am hardly disposed, on the available evidence, to believe that he was epileptic.

Fortunately, the incidence of epilepsy seems to remain at a more or less stationary level, with about three cases per thousand of the population afflicted. Most of them are able to get along in the community, after a fashion, with assistance, and probably only ten or twenty per cent require hospital care.

Although I believe the subject of epilepsy would hold some interest for you, I felt it inadvisable to elect this as my topic of discussion, choosing rather to deal with certain phases of the subject of crime. The Division for the Examination of Prisoners of the State Department of Mental Diseases, has undertaken an analysis of some five thousand cases, examined by this Division, and I thought that probably this study would be completed in time to permit presentation here tonight, at least in part. For this reason, instead of epilepsy, I felt it preferable to talk to you on some aspects of psychiatry and crime, narrowing the discussion to a consideration of this survey material. I now find, however, that this is impracticable, as we are not yet at the point where we would present this material properly, and so my comments will have to be of a more general character, although mention will be made of some of the facts brought out by our study.

Every one is necessarily interested in the subject of crime. We may suffer loss of prestige, property, or life, through the activity of criminals. We are compelled to have an interest in crime because it reaches directly into every pocketbook. It creates an omnipresent threat to personal security, to orderly, peaceful existence, to the stability of State and Government.

Furthermore, the numerous laws emanating from legislative bodies raises the possibility that with the best intention, and without any criminal purpose, almost any of us may at some time or another be guilty of some infraction of the law. Then, too, there is always a grave "crime wave". Newspapers, and periodicals feature articles about the "crime wave", lecturers discuss the "crime wave" and deplore the state of our civilization, and sometimes even suggest remedies, which usually consist of proposals for more rigid laws, and for more rigorous and severe treatment of convicts, with the understanding, of course, that the courts will impose long sentences whenever possible.

We are compared with contemporary nations, and found to be in a much worse state than they are. Our own time is compared with previous periods in our own history, and we are found to be wanting. Crime statistics are notoriously lacking, although there is now a Federal Bureau for the recording of current crime statistics in some-what the same manner as communicable disease reports are recorded and analyzed. No doubt, this statistical bureau will, in the course of time, acquire material of great value. However, there will always be limitations on the use of statistics for comparison of one period with another, and of one locality with another, at least in certain classes of crime. If one locality brings a charge of drunkenness against intoxicated persons, while another jurisdiction lists these under a charge of disorderly conduct, or if one locality reports all crimes of which there is any knowledge, while another reports only those where an arrest is made, or if there are other variations in the statistical standards, scrambling of the statistics will result, and care will be necessary in evaluating them. Even if the statistics were all collected with exactly the same degree of care and on the same standards, the extent of concealed crime would still be great enough to raise some doubt as to the validity of statistics for making absolute conclusions or for drawing comparisons.

From actual statistics, it is difficult to demonstrate the existence of any special crime wave at any particular period in our history. In 1923 the latest comprehensive statistical study of prisoners sentenced in the United States was made. I am not going greatly into detail, but a few of the figures may be of interest. During that year, 375,000 offenders were committed to institutions, and it is estimated that 500,000 more were convicted, but were released on probation or suspended sentences, or punished by fine. There were approximately a million convictions, or one for every one hundred of the population. It is estimated that the total number of arrests was over five million. While this figure is large, it compares favorably with similar statistics for the year 1910. In 1923, the rate of persons sentenced by commitment to institutions was 325 for each 100,000, — while in 1910, the commitment rate was 522 to 100,000 of population.

The homicide rate has fluctuated considerably, but has not shown any continuous rise. Since 1910, the lowest annual homicide rate was 46 per million of population, and although the rate has been as high as 80 per million in some years, there has been no consistently rising curve. It is clear, however, that our homicide rate is higher than that of most foreign countries. In England, the rate has varied between five per million and eight per million; the rate in Canada is approximately fifteen per million. The free circulation of firearms has been advanced as one of the causes for the exceptionally high rate of homicide here, and the large proportion of negroes in this population is usually regarded as a factor. Over two-thirds of the homicides involve the use of firearms, and the rate of homicide for the colored population is very high. In 1926, the rate was 455 per million, colored, against 52, white.

During the period between 1910 and 1923, there was distinct reductions in arrests for public intoxications, disorderly conduct, vagrancy, prostitution, larceny and burglary, with increases in sexual assualt, forgery, homicide, and robbery. It is said that during this time violations of the liquor law increased over three hundred precent, and drug law violations increased over two thousand percent. A reading of the Boston newspapers in the last few months would almost lead one to assume that there is a serious "crime wave" here. There have been several arrests on charges of murder, and the newspapers have not failed to give prominence to every item concerning them. However, the records show that during the past several years there has been a decline in the prison population of this State. A reduction of approximately a thousand in state and county institutions has occurred during the course of some fifteen or twenty years. Because of the enormity of the problem, the economic and the general social factors involved, the psychiatrist, along with other intelligent citizens, must have an interest in the general problem of crime. But the special interest of the psychiatrist in crime problem is much more circumscribed and restricted. He is interested more particularly in the criminal than in crime.

From an historical standpoint, there are some analogies in the attitude of society toward the criminal and towards the mentally afflicted. In a society that regards every action as due to the exercise of "free will", and considers every one personally responsible for his actions, and at the same time considers mental disorders as manifestations of willful and deliberate association with devils or evil spirits, mental abnormality will be viewed as something reprehensible, and the victim will be subjected to harsh, or at least arbitrary, measures. For centuries society's attitude toward the insane was much the same as its attitude toward the criminal. With a more enlightened understanding and the gradual realization that the mentally deranged had not created their disorder through viciousness, the treatment of the mentally afflicted underwent a gradual change. But the treatment of the criminal has continued much as it was in the past. There has been some amelioration of the harshness of society's general attitude toward the criminal group, but the study of the criminal himself on any large scale is of recent origin. The belief that the criminal is the product of his enviromnent, that the attitude and character of the offender may be due to the effects of his experiences, education and training, that measures of rehabilitation and even crime prevention may be possible of achievement if we will trouble ourselves to discover causes and ascertain the early traits and tendencies predisposing to criminality, are such recent phases in the development of ciminology, that they may be properly regarded even now as innovations.

Legal factors are involved in every case coming to the psychiatrist's attention through commitment to hospitals. The Constitutional guarantees against illegal detention necessitated the drawing of certain restrictions around hospital admission for mental cases. The majority of these patients are received by court order under regular commitment. There are certain special restrictions applying to patients who have committed some serious offense before admission which prohibit release from the hospital care until recovery has occurred, except by Departmental approval. There are other special provisions which enable the court to commit a prisoner before trial for observation, and persons under sentence may be committed to hospitals if the mental condition should require. In the first instance, the prisoner must remain a patient until recovery from the mental disorder, or until it is decided neither the public interest nor the welfare of the patient requires that he remain in the hospital and then discharge is possible only by return to the court. A prisoner under sentence, committed to a hospital, must be returned to the correctional institution after recovery from his mental disorder, or until his mental condition is such that he does not require hospital care, although time spent at the hospital applies to the satisfaction of the sentence, and if the sentence has expired, he may be discharged from the hospital. However, the psychiatrist's interest in the criminal aspect of these cases is lacking. He is solely concerned with the treatment of the mental disorder, and his attitude is entirely that of the physician towards his patient.

The most important direct interest of the psychiatrist in the actual problems of crime has to do with the determination of the mental condition of persons arrested but before trial. When any person is arrested on a criminal charge, it is important that the court should understand the mentality of the accused, as this enters into the adjudication of his case on three major points, namely: responsibility, trialability of the defendant, and disposition of the case.

Responsibility has principally to do with the mentality of the offender at the time of the alleged crime, and if it can be ascertained that the accused was then insane, there can be no crime because of his inability to form an intent, which is necessary before a crime can be committed. Trialability has to do with the mental state at the time of trial. It is not intended that an accused person should be placed on trial if and while he is insane, even though it might be established that at the time of the offense he was of sound mind. In the matter of disposition, there are many facts which the psychiatrist may discover for the court which will enable the judge to make disposition in the most effective way, both from the standpoint of the accused on trial and of society in general.

It is in connection with this service of the court that the psychiatrist has come in for his full share of notoriety and criticism. The appearance of the psychiatrist as an expert witness has placed him in the public eye, and has in some measure served to discredit psychiatry, although this is usually through no fault of his own but due to peculiarities of court procedure. The bristling contentious atmosphere of the courtroom, with the State's attorney arrayed in fighting togs, and the defense attorney similarly attired in what may be described as trial by combat in the modern manner, the medical expert is in a position of extreme difficulty in presenting his evidence. There are antiquated methods of legal procedure, specific tests, hypothetical questions, and other restrictions imposed by law that make it difficult or even impossible for him to give his evidence in a clear and impartial manner. In cases of great prominence, experts appear on both sides of the case, all equally hampered in giving a clear or concise opinion. Restrictions compel the expert to give his testimony in a biased, partisan manner. In the great majority of cases, where experts are employed, there is no particular notoriety. Medical and technical experts of various types are used frequently in the courts without receiving any more than passing notice, but in exceptional instances where prominent characters are involved, where there are large funds at stake, where there is strong public sentiment and prejudice, either for or against the defendant, there is a suspicion that the expert's testimony is influenced more by his fee than by his intelligence and judgment. His testimony is featured in the newspapers, and the impression is spread that the expert is a person to be viewed with suspicion.

That this is a real evil in court procedure is readily acknowledged, and there have been attempts made to correct it. In some states, laws have even been proposed to abolish the defense of insanity. This is clearly undesirable, and violates the accepted understanding that no person is intended to be placed in jeopardy if his mental condition is such as to render him irresponsible, although Citeau, the assassin of President Garfield, was apparently insane and at one time was in a State hospital. In one State, on the plea of insanity, the defendant is committed to a hospital for thirty days' observation, and in this way an unbiased study of the mental state is obtained. In at least one State, experts may be employed and paid by the court.

You are all, no doubt, familiar with the practice in the State of Massachusetts, where under the so-called "Briggs Law" certain accused persons after indictment are examined by a board of two psychiatrists, appointed by the Department of Mental Diseases. This examination is required by law in every case where there is indictment on a capital charge or where there is a charge of felony, and a known previous arrest. The report, rendered in writing to the Department and transmitted to the courts, is available to the defense, the prosecuting attorney, the probation officer, and the court. The examination is entirely neutral and free from prejudice, and the defendant still has the right to summon any expert witnesses he may wish to employ. With very rare exception, the prisoner has cooperated at the examination, and the acceptance of the reports by the courts, the prosecution, and the defense, attests the confidence of these parties that the examinations are both fair and competent. Recognizing that no procedure can overcome disagreements arising from legitimate differences of opinion, it is imperative that the courts shall have the opportunity to seek expert advice and the expert should have full opportunity to present his opinion clearly.

This inexpensive and relatively simple procedure appears to be highly satisfactory, and has been indorsed by the various medical and legal associations, by the National Crime Commission, after a careful and thorough review of this whole subject, and recommended by them for adoption in other States. There could seem to be no serious objection to this plan, but in those States with no centralized department of mental diseases, and in others with only scattered rural populations, there are possible administrative difficulties. Even though there might be practical problems in some instances, due to a local condition that would prevent the adoption of this particular scheme in these exceptional situations, it would not be impossible to devise a procedure sufficiently inexpensive to be feasible and yet of a quality that would insure the safe-guarding both of the public and of the accused when the mental state is in question. The Massachusetts plan has a special quality of fairness in that every case falling under the provision of the law is investigated, even though a defense of insanity may not have been offered or considered. It hardly seems debatable that accused persons are entitled to this degree of consideration. There are several courts in the United States maintaining psychiatric clinics or utilizing the service of privately operated clinics, and the day is passed when the psychiatrist studying the criminal is to be regarded as "just one nut chasing another nut".

There seems to be no grounds whatever for the apprehension sometimes expressed that the psychiatrist will find something wrong with every prisoner he examines, and through this discovery defeat the ends of justice and secure the release of sane but dangerous criminals on a specious finding of insanity. Of approximately a thousand persons examined under the "Briggs Law", about forty were determined to be insane and committed or recommended for commitment to State hospitals, and in thirty additional cases, observation commitments were proposed for more thorough study, preceding final determination of the mental condition. Over eighty were regarded as mentally defective, and about twenty classed as Psychopathic Personality, — a total of a little over twenty-one percent with a definite finding of mental disease or abnormality. This figure is sufficient to show that examinations of this character are definitely indicative, but that there is no disposition to make wholesale findings of insanity.

In the investigations of the medical aspects of crime by the National Crime Commission, over 1,100 courts were contacted and more than half of the judges of these courts made comment regarding the value of medical reports, — eighty-one per cent of this group being favorable in their opinion. Many of these emphasized the value of the reports, not only in protecting the defendant but found them of particular value for securing the better protection of society. It is the attitude, not only of the judges, but of the modern psychiatrist as well, that psychiatric studies are of principal utility in aiding society to protect itself from the criminal. In determining the responsibility of the criminal, the popular inclination to consider this as an abstract question of ethics or morals must be overcome. This is not a question to be settled on religious or metaphysical grounds. The law provides that under certain circumstances persons are answerable for their actions, and one who is thus accountable is responsible within the meaning of the law. The mental state is one of the elements affecting this accountability.

However, it is not solely in matters of responsibility and trialability that psychiatric studies are of value. They are of equal importance in determining disposition.

It is particularly in reference to questions of disposition that the psychiatrist's examination becomes an important factor in safeguarding the public against the criminal. There are various degrees of mental defect and abnormality, qualifying the disposition of cases. Experience has gradually modified the original notion that this nation was to be a government of laws and not of men. It has become more and more apparent that the personality of the offender and his particular problems cannot be ignored.

This has received its greatest recognition in handling of juvenile cases. That young children are incapable of crime is recognized almost everywhere, although you probably will recall that it is not long since a youngster who had killed a playmate was arrainged on a charge of murder in one of the States. Such amazing reversion to barbarity is puzzling and is surely not to be expected in any enlightened community. Juvenile courts exist as special organizations in most urban populations and in many of the rural districts. Juvenile cases coming before the regular court are heard at special sessions under conditions designed to protect the offender. For the most part, juvenile court methods are decidedly personal, and procedure is informal. Complete social study is made, the character of the offender is carefully investigated, his family life, the character of the home and the influences to which he has been subjected are reviewed. An attempt is made to discover the individual to himself, as it were, and to uncover his problem; then, on the basis of these personal considerations, the disposition and further management of the case is designed to overcome unfavorable tendencies to modify the environmental conditions and ultimately to accomplish an effective social adjustment.

The importance of the juvenile courts cannot be over estimated, and, personally, I am in favor of the proposals to raise the age limit, so that cases involving older children would come before the juvenile courts, or some similarly constituted judiciary. It would, in fact, be most desirable if all of the criminal courts would adopt something of the procedure of juvenile courts and thus permit all cases to be handled according to the particular facts governing each case. The family and social environmental conditions, the nature and personality of the offender, are of very real importance in the settlement of every case, and in the management of care of the prisoner after conviction. The idea of correction and rehabilitation of criminals is comparatively new, and there are still many who demand the treatment of offenders solely as a matter of punishment. Enlightened and impartial investigation sheds increasing doubt on the validity of this conception. There are competent observers who feel that punitive measures are wholly invalid and without effect.

Naturally any modification of court procedure must be undertaken seriously and only after thorough investigation has shown the direction in which changes are required. Probably part of the trouble could be overcome by the establishment of social service facilities and examining clinics in connection with the present courts, provided laws were enacted to enable the courts to utilize the knowledge gained through these sources in passing judgments and making dispositions. Our estimation of the efficiency of the district attorney's office should be on some other basis than the number of long, harsh sentences secured. However, if all the perplexing failings of court procedure were corrected, the necessity would still exist for a critical consideration to be given to the treatment of those admitted to penal institutions. For the most part, assignment to a particular institution is made by the court itself, although in Massachusetts a certain amount of re-assignment and transfer is possible by the Department of Correction.

A person convicted and sent to a Reformatory or a State Prison has a fair opportunity to have some psychiatric study of his case made. Most institutions of this character employ a psychologist or psychiatrist, or both, and a certain amount of social investigation is undertaken. While such studies made after conviction can never satisfactorily replace examination before trial, they are nevertheless important. If we ever hope to understand the nature of the underlying causes of delinquency, we must expect to obtain this knowledge by painstaking and competent study of the offender. Naturally, these studies have limitations. The institutions receive only a small percentage of violators. Through this means, we can study only the unsuccessful offender, but the total numbers are large and offer a valid source of information.

The individual study of criminals on any large scale was begun only recently. A hundred years ago, no such studies had been undertaken. The earlier investigations were especially designed to discover the existence of a criminal type. Earlier conclusions that criminal behavior is innate and predetermined were discarded, but the belief that a criminal type did exist was only abandoned after it became clear that although criminals might be abnormal they might also be normal and they differed from one another as much as persons differ in the general population. No valid criminal type could be defined. Examination and study of inmates of Reformatories and State prisons has been carried out in most States during the past several years, and a great deal of knowledge has been gained regarding inmates of these institutions. But, in the State of Massachusetts, the first attempt to study prisoners in the jails and houses of correction was begun in 1924. The examinations are carried out through the Division for the Examination of Prisoners of the Department of the Mental Diseases with offices in Boston, Springfield, Worcester, Salem and Taunton. There is at least one social worker in each of these offices; each district also employs a psychiatrist on a part-time basis. There are four social workers assigned to the Boston office, and the examinations are made by specialists in psychiatry on part-time employment. The law does not contemplate the examination of every person committed to these institutions. It provides only for examination of those committed for a period of more than thirty days, unless there has been a previous conviction. Persons serving sentence in lieu of a fine are not examined. A full social history is obtained in each case before the psychiatrist makes his examination. The complete case, together with such recommendation as may be offered, is filed with the Department of Correction, and two copies are sent to the State Board of Probation, where they may be obtained by any Court or probation officer, if the prisoner should be re-arrested later on. Many of the courts regularly use these records in disposing of later cases.

Since this work was begun, there have been a yearly average of about one thousand examinations, so that at the present time over eight thousand of these prisoners have been studied. As previously mentioned, an analysis is underway of the first five thousand of these cases, and only incomplete pertinent comment can be made on the basis of certain facts that have been noted thus far.

The rate of recommitment is quite high. Over forty per cent of those examined have had one or more re-admissions on subsequent charges. Alcoholics constitute a fair proportion of these prone to repeated arrests. Over fifty-eight per cent of the entire group showed a history of alcoholic intemperance, and an additional twenty-five per cent are listed as "temperate". Only twelve per cent are known as abstinent. A definite diagnosis of alcoholism was recorded in thirty-eight per cent. If such a record is possible under conditions of Prohibition, what shall be expected if we should abolish restrictions on the use of intoxicants?

Disregarding the female group, which is small, comprising less than five hundred cases, out of the 4576 male, forty-two per cent fall between the ages of seventeen and thirty. Twenty-eight per cent are between thirty and forty years, and thirty per cent are over forty years of age. Alcoholism is found mainly in the group thirty-five years of age and over. In the 3.2 per cent definitely diagnosed as having a Psychosis or Neurosis, nearly all were over forty years of age.

Of those under thirty years of age, the great majority are native born, charged mainly with more aggressive offenses, breaking and entering, larceny and robbery. Those in excess of thirty-five show a greater percentage of foreign-born.

On the basis of paternity, there are some interesting figures. Nineteen per cent of the total are native-born whites, of native parentage, — which figure may be accepted as being well below the limits of expectancy, based on population proportion. Thirty per cent are foreign-born whites, which figure is also within the limits of normal expectancy. But for the native-born of foreign parentage, the total of 31 per cent shown is distinctly above any possible limit of expectancy.

Of the total, seven per cent never attended school, and eight per cent are known to have attended school beyond the age of fifteen; going to work was the most frequent single cause assigned for the discontinuance of the schooling, and was alleged in some forty-five per cent of all cases. Seven per cent are shown as illiterate, and an additional six per cent can read and write, but did not attend school. A total of thirty-four per cent either never attended school or did not progress beyond the fifth grade. Less than ten per cent ever attended school beyond the ninth grade, and only four-tenths of one per cent (or twenty out of 4576) are accredited with college attendance; while only two-tenths of one per cent (or eight out of 4576) attended professional schools.

Of the total, twelve per cent had a record of arrests at the age of fourteen or under. Sixty-five and five tenths per cent had a record of first arrest before the age of thirty. Five per cent showed a record of more than thirty previous arrests, and over sixteen per cent showed a history of four or more previous commitments to correctional or penal institutions.

Ninety-four and five tenths per cent are recorded as from urban communities; sixty-seven and five-tenths per cent lived in urban neighborhoods and environment during early life, up to the age of seventeen.

In the early home life up to the age of seventeen, poverty, intemperance of parents, gross ignorance, immorality, and broken homes, was the rule, and only fourteen and four-tenths of the total are listed coming from good homes. Twenty-nine and seven-tenths show a history of alcoholic addiction in one or both parents. There is a history of delinquency in the family in twenty per cent. A total of twenty-five per cent left the care of parents under the age of seventeen. Over thirty-three per cent lost one or both parents through death or separation under the age of seventeen.

Family history of recognized mental disease or mental deficiency shows in approximately ten per cent of the cases.

The number of cases classified as drug addiction is comparatively small, with a total of only fifty-three in the entire group, or one and two-tenths per cent. There is a total of thirteen diagnosed as Sane Epileptic. The percentage of cases of mental deficiency is somewhat smaller than what might seem reasonable. Seven and two-tenths per cent, or 325 cases, are mentally defective, and an additional nine per cent were classified as of low normal or borderline intelligence. There are seven hundred and eleven cases considered as Psychopathic Personality, a total of fifteen per cent of the group. The diagnosis of actual psychosis was made in three and two-tenths per cent, or 146 cases. Of the total then, over thirty per cent show some positive or suggestive mental disorder or abnormality, and should demonstrate the need for psychiatric study of prisoners of this class.

One would hesitate to draw positive and final conclusions from the figures quoted. I have presented them mainly as a matter of general interest, showing something as to the general characteristics of the inmates of the county correctional institutions. It is immediately apparent that this is in no way a homogeneous population, but is, in fact, composed of various dissimilar elements, and the importance of these dissimilarities will vary according to the particular phase of the problem with which one is concerned. Very likely, there will be agreement that the small group of actual psychoses should receive consideration. Provision of treatment for such cases would be an acknowledged necessity. There will be little argument as to the course to be followed, and little hindrance to the affective disposition of these cases through hospital commitment. But from this point on, the goal is not quite so clearly distinguishable, whether we are concerned with the questions of institutional treatment and management with supervision after discharge, with rehabilitation and reformation, or with the general problems of crime prevention.

For those who show no mental abnormality or defect, control through sentence punishment is advocated, but the limitations of such management and treatment have been mentioned before. The numerous histories showing repeated arrests with appearances in court after repeated punitive commitment should be sufficient to raise doubts as to the efficacy of such measures, even in the minds of those who advocate it, on the ground that there now seems to be no other means of dealing with such characters. The large number of alcoholics repeatedly coming before the courts, committed for short terms only to be released and allowed to resume their former habits of intoxication, would seem to call for some specialized method of treatment through disposition by indeterminate sentence to an institution specially designed for that purpose.

An institution already exists for the permanent segregation of defective delinquents, but nobody would contend that all mentally deficient persons who commit offenses require commitment as defective delinquents. Many of the feeble-minded are able to get along fairly well, but they require and they should be entitled to, the special training and supervision indicated. They can get on in the community under suitable care provided by relatives and friends. They are trainable and acquire enough ability to earn a living for themselves. Many defectives admitted to State schools later leave these institutions and are able to work at some gainful and useful employment. On the streets of Boston, I have repeatedly seen men, formerly patients at one of the State schools, but now employed at laboring work, taxi-driving, or doing other unskilled tasks, behaving themselves and getting along comfortably through their own efforts, or in some cases with a little friendly assistance.

The fifteen per cent of our study diagnosed as Psychopathic Personality are confined almost entirely to the group under the age of thirty. This group constitutes a most perplexing problem. The psychopath falls in the borderline, between the normal and the abnormal, and consequently the most ill-defined of all classes. They are mostly young, and are inclined to commit acts of a more serious, aggressive character. There is a frequent history of broken homes in early life and of early delinquencies, lying, stealing, truancy, and running away. It is almost impossible to formulate any satisfactory definition of the term, Psychopathic Personality. Personality itself can be defined only in a most imperfect descriptive manner, and it becomes no easier when coupled with another and even less definable expression. It is impossible to classify all human beings into two clearly defined separate classes as absolutely sane or absolutely insane. These two, in fact, represent rather the extremes and they blend so insensibly into each other that they are separated by a broad zone, rather than by a line, and this zone will always furnish unlimited opportunity for legitimate disagreement. We may say that we use the term psychopathic personality to designate the near-insane, or, as they have been called, the semi-insane. The cranks, fanatics, and peculiar persons, whose behavior is habitually unusual or who show the accentuation of certain characteristics almost to the point of actual abnormality, fall under this designation.

Some of the outstanding characters and even geniuses of history have exhibited peculiarities to a marked degree. It is said that Beethoven was ill-tempered and unable to get along with his associates, and that when he was at work he was afflicted with a subjective feeling of intense heat, so that he would be obliged at times to rush out of the house and walk bareheaded, without a coat, in the cold. Mozart wrote a requiem under the delusion that he had been ordered to do so. It is hard to reconcile the beautiful melodies of this composer with some of his peculiar habits. When one hears the beautiful strains of his opera, Don Juan, it is impossible to imagine him at home, washing his hands in a basin and then dumping the water on the kitchen floor. Schiller was able to think effectively only when his feet were resting on a cake of ice while he inhaled the odor of decayed apples. And then it is claimed that George Washington reserved a certain room where he could retire to privacy when he felt the need for indulgence in some extra heavy and forceful profanity during one of the periods of uncontrollable emotion to which he was addicted. These traits in themselves may be insufficient to prevent a fair degree of social character. They may actually establish a total incapacity for orderly social conduct. Possibly the direction of tendencies is due to early training and conditioning while the inherent constitutional makeup provides the background only, and serves us as a predisposing factor. In any case, it would seem to be illogical to expect any beneficial results to arise through the housing and management of prisoners of this type along with mentally defective, alcoholics and normal prisoners. Unstable, difficult to manage, treatment by indeterminate commitment to an institution for psychopathic delinquents appears as the only logical provision for cases so incapable of conforming to custom or to law as to demand their commitment under special conditions that will permit study and treatment, and will allow their return to the community, not at the end of any period of specified time, but after a sufficient degree of stability has been achieved to justify release.

There is little opportunity for segregation in the houses of correction and jails.

It is true that there are differences between these institutions. Some have arrangements for outside exercise and employment, while others have little or no employment and no opportunity for outdoor work or play. However, except for purposes of special punishment, isolations and restriction, all inmates will receive more or less identical treatment in any one jail, whether these inmates be alcoholic, psychopathic, perfectly normal or otherwise, so long as they conform to the prison discipline. Opportunity does not exist for examination and investigation of the factors underlying the prisoner's behavior and personality, and there are no special facilities for ascertaining his particular problems to assist him in rehabilitating himself.

The ultimate goal of all of crime study must be the discovery of causes of anti-social conduct and criminal behavior, the reformation and rehabilitation of the criminal, the prevention of crime. It would be especially salubrious if we could establish definite formulations concerning crime causation. If we could find that specific cause X equals very definite criminal behavior, or that definite cause one, plus definite cause two, equals criminal behavior type B, thus reducing all criminal activity to relatively simple formulae of mathematical accuracy, our problem would be clear. Simple remedies could be found and applied. Social organization is complex; constitutional and individual differences between the members of society are multitudinous and varied. The conditioning influences to which we are subjected may sometimes be similar, but are never identical for any two persons. If you have hoped or expected any such final and easy conclusions from me tonight, I fear you will be greatly disappointed. I am not sufficiently well informed to offer you any simple and positive cure for crime nor sufficiently ill-informed to delude myself with any belief that easy explanations or cure for crime is likely to be established.

There are some common factors recurring with sufficient frequency to justify the belief that they are of special importance in producing criminality. But in the main, these factors are only partially amenable to voluntary regulation, and any rational approach to the solution of crime problems must be largely through the study of the criminal himself, and will entail a study of his cultural and social background, his intelligence, his personality, his economic situation, and his particular problems. I am, perhaps, unfortunate in having no pet theory as to crime causes. The most effective propaganda and missionary work arises from a firm conviction of the correctness of some fixed belief, with a disregard of facts that might contravert this belief.

However, I feel that there are certain factors whose recognition as etiologically significant in criminalism may be justifiable. For instance, there are fluctuations in the rate of certain crimes, at least, concurrent with variations in economic conditions. In times of depression when work is scarce, non-support, neglect, desertion and stealing become more frequent. The decrease in crimes occurring after recovery from a depression is not in absolute ratio to the improvement in business, but with depressions there is a distinct increase in crime rate. The contention has been raised that the excess of crime in the United States is not altogether illogical, as this is in keeping with our other trends. We have more of everything than any other country, more prosperity, more business, more industrial activity, more massed production than any other nation. It seems doubtful, however, that it is necessary for us to have more of the undesirable social characteristics than other countries, merely because we have more prosperity, and because we have higher economic standards. The very fact that when business is bad crime increases tends to negate any conclusion of the sort, because the situation on this theory should be reversed. Crime should increase as business prospers and diminish with periods of depression. We have not yet, however, reached a level of economic stability and security that will ensure the elimination of business depressions and thus abolish this cause of criminal activity.

The observation has been made repeatedly that crime is predominantly an urban problem. Conditions of poverty, congestion, the opportunity for contact with organized criminal groups, the limitation of outdoor recreational opportunities, and the ultra-sophistication of both adult and juvenile city inhabitants, the opportunity to conceal activities, to congregate in gangs, and to acquire effective facilities for hiding out and many other circumstances all favor the criminalization of urban communities. Efficient administration of welfare activities has helped to eliminate some of the more vicious effects of proverty and neglect in cities and the installation of supervised playgrounds and of city parks for recreational opportunities has done a great deal toward the elimination of juvenile delinquency.

Appreciation by the police of their importance as a social service group, rather than as a mere organization for harassing and molesting the public, has been of great benefit. It has been presented, on what seems to be reliable authority, that in the past the police of various cities have been known to induce certain persons to commit crime solely for the purpose of making an arrest and securing a conviction. Such an attitude on the part of the police requires no comment.

I have recently heard it said that crime naturally divides itself into two general problems. One, the problem of rural crime, which is relatively small and unimportant, subject to rather effective control through community feeling and a small enforcement organization. The second problem of city crime. dangerous and violent, must be put down by vigorous, forceful police activity. With this, I am not in entire agreement, that police organization of power and vigor is requisite to the orderly management of a city will be self-apparent. But a great deal more than force is needed and, in fact, a high state of intelligence is equally as necessary in this police organization as mere force and power. I feel, personally, that a great deal more will be accomplished through effective social service work and through measures of education than by force alone. In both of these activities, there is a possibility of diffusibility and of permanent influence of much greater value than the shorter acting, more localized, less diffusible repressive influences of physical force alone. The legitimate offspring of force is violence and brutality unless that force is tempered with a sincere kindliness and justice. In 1921 an Intelligence test to the police of a large mid-western city showed the following scores: three percent made Grade A; thirteen percent made Grade B. Of 979 men, only sixteen had more than average intelligence as determined by this method. Of Captains, only forty-one per cent were superior. Over twenty-five per cent of patrolmen were scored as inferior. The score of deductions: Of sixty-three, not one scored in Class A, and only four per cent reached Class B. Also, twenty per cent were low average and three per cent definitely inferior. At your last meeting, I believe someone told about a healthy young man of limited intelligence who was naively explaining that he had just been given an examination for "moron", and he failed to qualify. If any of you happen to know the name of this young fellow, I wish you would tell me for I should be pleased to let him know where this study of the police was carried on. I feel sure that he would not be out of place in this group and that he could pass the examination of appointment on a police force constituted as this one was. In fact, if he is dumb enough he might qualify as a detective. It would be idle to deny the deterrent effect of an efficient police organization on criminal activities. The police organization must be both effective and capable and must have the confidence of the general public assuring its protection and assuring the criminal that he will be apprehended. Boston's experience during the well known police strike demonstrates clearly the effects of removal of this deterrent influence of the police force.

The enactment of special types of legislation has often resulted in an increase in crime. Sometimes these laws have been necessary measures, such as health and sanitary regulations. In other cases, they have been of problematical value, as in the case of Prohibition laws. In other cases, they have been positively stupid and indefensible, as in the case of the anti-cigarette law, now enforced in at least one State, and at one time enacted in the State in which I lived, but promptly declared to be unconstitutional. That changing conditions of life, the increase of our mechanical knowledge and even our social progress, should require a modification and change of laws is inevitable, but these enactments, establishing otherwise harmless and sometimes unimportant acts as crimes, add to and increase the total volume of crime. Furthermore, laws of this character, and even new laws that have legitimate necessity such as traffic laws, growing out of the invention of the automobile, result in such increase in the volume of crime as to distort statistics and to occasion the belief that crime is increasing when this increase has been artificially created.

Also there are fairly well defined seasonal variations in crime rates. Many persons have no serious objections to enjoyment of the protection afforded by correctional institutions during the seasons when conditions are not easy on the outside. It is hardly probable that we can overcome artificially the effects of seasonal variation.

The free circulation of fire-arms as a cause of the high rate of homicide and certain other crimes in America is readily apparent. Control of sale and distribution by effective national legislation has been advocated repeatedly and ought to be so obviously necessary as to require no comment.

At least in the case of the negro, there is a strong racial element although the proportion of colored prisoners in our group is too small to permit of the drawing of conclusions. In some States, however, with large colored populations, special problems will arise on this account; even negro observers concede the excess of criminality among members of that race as compared with others. That this may be due to other than purely racial characteristics will be acknowledged. The causes seem to be mainly social and probably could be influenced by educational and social measures, but thus far no adequate solution of the negro problem has appeared.

There are also various other large factors influencing crime in a general way. One of these is our good humored tolerance of incompetence and even dishonesty on the part of public officials. The "fixing of cases" through special influence can have but one final effect, — to weaken and nullify the force of law. In the Middle Ages, when penal methods were brutal, it was a common practice to punish certain crimes by branding with heated irons. But, when conditions developed to the point that for special consideration of bribery or high caste made it possible for cold irons to be used in certain cases, the whole scheme was destroyed through its own internal corruption. The nullification of such brutal measures as branding can in no way be regarded as a calamity, but the mechanism of destruction of a force of any law is precisely the same as that shown by the illustration. In those places where the judges are elected, the opportunity for corruption and administration of unequal justice because of obligations incurred through election contributions is very great. The settlement of cases through friendly influence or political pressure is equally capable of producing weakness of the law enforcement machinery, as are corruption and dishonesty; and the resultant unfavorable effect on crime is the same in either case.

Secondly, the widespread scoff-law attitude toward unpopular laws, by otherwise law-abiding citizens, fosters a disrespect for all law and promotes, especially among the criminally predisposed, an attitude of self-justification in law violations which is one of the major elements in the psychological orientation of offenders generally. If we disregard and knowingly violate unpopular laws, we are in a weak position when we criticize others who merely follow our example and violate restrictions, distasteful to them.

This evil has arisen mainly through two causes, — the tendency to seek remedy for every real or imagined wrong and to control behavior by legislation has frequently resulted in enactment of unpopular laws and a super-arrogation of those who disapprove of these laws to disregard them, encourage the disregard of other laws, the necessity of which is unquestioned. Both of these factors are potent and there is little likelihood that they will be overcome.

For the most part, these crime factors mentioned thus far, are all of wide general character. They involved social forces of great magnitude and are only partially amenable to purposeful modification. It seems to me that our major effort to understand and control crime must be through personal study of the offender. The frequency of observation of mental disorders, of mental defects and of personality deviations are sufficient to show the necessity for psychiatric study of all criminals. The social and environmental situations operating in these cases show conclusively the need for social service investigation and supervision of the offender. Criminality arises in the environment. The repeated history of broken homes, with only exceptional cases coming from homes that could be classified as good, (only fifteen per cent in the group studied by our survey), point very positively to the home influence as one of the major causes.

The limited education of the group studied by this survey is also strikingly prominent. Less than ten per cent of over 4,500 consecutive cases studied ever attended high school, and less than one per cent ever had the advantages of higher education. Schooling, then, looms as an important element for consideration. In the first place, continuance at school beyond the elementary and grammer grades would seem to be a matter of considerable importance. This element may be designated simply as a lack of education and the too early discontinuance of formal learning. But, in addition to this, there is the problem of special instruction which cannot be ignored. The provision of school facilities is always expensive. There are pupils who fail in their work, and who are pushed along to the next grade because of crowded school conditions. There are instances where a pupil is held back for a time, but ultimately he is incapable of performing the work, and is deriving very little from his instructions. This plan seems to be adopted in some cases as a matter of apparent necessity, but its effect cannot be described as in any way beneficial.

As an illustration, I will mention the case of a woman in a school for the feebleminded with one daughter also at that institution. A second daughter in the last year of high school was requested to report for examination merely for the purpose of completing the case record. At the examination, it was disclosed that she was altogether incapable of doing high school work, or of even doing eighth grade work, for that matter. Nevertheless, she had been passed along from grade to grade, finally pushed through to high school graduation. She will be wholly incapable of doing the work which would be expected of a person with a high school diploma.

Another youngster age fourteen, charged with theft, was recently referred to me for examination. He had failed to pass in the fourth grade, when he had moved from one school district to another, and when examined was in the 7 a grade. He was an attractive little boy, and thoroughly cooperative, but so evidently incapable of doing seventh grade work that it seemed incredible that he should have been carried along to this grade. He could do no long division, and was extremely poor in spelling and reading, although he had a certain amount of mechanical skill and practical knowledge, particularly of farm work, since he lived on a farm.

I disagree with any arbitrary proposal that would seek merely to limit numerically the number of persons registered for higher education. I feel that everyone should have the opportunity to acquire a formal education up to the limits of his ambitions and abilities, but I can see no purpose whatever in moving along pupils who were wholly incapable of performing the work of the preceding grade. The discovery of such incapacity should result not in passing the pupil to higher grades, but should begin the establishment of special training facilities along lines that he could comprehend and the insistence that he attend these classes where he can receive the type of instruction suitable for him. The discontent arising through the failure of a person to adjust on a place that might be expected because of factitious education increases his burden and renders the orderly conduct of his life more difficult and complex. Repeated failure has very unfavorable effect on personality even in normal individuals. The experience of repeated failures in the defective is even more pronounced. A series of such school failures followed by more serious failure after completion of school training, because the individual is actually never able to complete the school work, is still more potent in its disastrous influence on the personality and consequently upon social adjustment. Such a situation especially predisposes the mentally defective to irregular and criminal behavior.

It is well known that the ages from seventeen to nineteen are important years in the establishment of criminality. It is a period of adolescent instability and uncertainty, and with the discontinuance of school, it is a period of minimum supervision. Where delinquent tendencies begin to appear during this period, the fullest investigation and the most careful examination should be made. Probation in this situation should carry with it an understanding that a strict degree of supervision will be exercised by a trained social service, and out-patient clinical contacts should be established if there appear to be psychiatric problems involved. However, I am personally inclined to believe that some over-emphasis may have been assigned to the importance of these ages of seventeen to nineteen. In our study, nineteen per cent showed history of first arrest at age of sixteen or under, and a great many more with no overt offense recorded within those years showed a consistent early history of stealing, lying, running-away, truancy, and so forth. Doubtless, often these are the expression of a mere transitory phase of development, but too frequently they are the early evidences of delinquency, and represent the foundation upon which the later criminality will rest. If the need for personal consideration and complete social and psychiatric study of offenders is any where apparent, it is in connection with the management of the juvenile offender.

In the older offenders, the necessity for the study of the criminal himself is evident from the relatively frequent appearance of actual mental disorders. In our study, this older group also shows evidence of incomplete adjustment, frequently characterized by alcoholic addiction. The repeated arrests and re-arrests in many of these cases on charges arising through alcoholic excess is conclusive proof that commitment and release with no attempt to understand the real problems involved or to extend assistance and supervision after completion of sentence, is unavailing.

In matters of sentence, I am strongly in favor of giving due weight to the special conditions of each case through long term probation under actual social service supervision wherever possible, and through indeterminate sentence by assignment to special institutions after scientific study of the personality of the offender has been made where institutionalization is thought to be necessary. There is, of course, the danger that the indeterminate sentence may become merely routine; at the end of a certain time after serving with good behavior, parole will be considered and release ordered. Furthermore, irregularities may occur as charged in the recent investigation of the alleged scandalous conditions in the Elgin, Illinois prison. It was contended that the parole board was showing favoritism, was being corrupted and manipulated by political as well as criminal interests, and even caused Hon. Newton D. Baker to say that he believes the indeterminate sentence should be abolished.

I know that there is some sedative and quieting value in the fixed sentence. The offender knows that he will have to remain a certain time and that he need not expect earlier release. But the realization that the end of his term will see him free, gives him a definite objective. In a study of condemned prisoners at Sing Sing, over a long period of years, the interesting discovery was made that so long as a condemned criminal was in a state of uncertainty, he was restless, hard to manage, and uncomfortable. If the legal appeal was pending, or an application for executive clemency had been made, the possibility that the death sentence may be abrogated, served to keep him in a state of anxious uncertainty. But in nearly every instance when the points of controversy or appeal had all been settled, there was a period of apparently comfortable existence, tractability, and resignation.

Rational administration of the indeterminate sentence, however, would necessitate the management of all committed prisoners in much the same manner as hospital patients are handled. Security of custody must naturally be insured. Segregation facilities to permit the separate detention of fractious and incorrigible persons are essential. A thorough investigation of each prisoner's history would be made, and the prison staff would include the sociologist, the psychiatrist, the psychologist, the physician, and other necessary technical personnel. No doubt, the court would and should reserve the right to impose a minimum sentence, but beyond this point release would be governed by the actual study of the offender, considering all discoverable factors. Of the housing and management of the various different types of offenders in a single institution, under the same sort of management for all types, I have already spoken.

The foregoing, a very brief allusion to some of the more obvious elements in the causation of crime and the treatment of criminals, will be recognized as elementary, sketchy and inadequate. I have made no attempt to enter into the discussion of complicated psychological theories which conceive criminal behavior as due to the individual attempt at any cost to sustain and cater to his egoistic desires. Nor have I mentioned operation of the so-called inferiority complex as a motive for criminal behavior. The bulk of cases in our survey show that these offenders generally have little organized activity and take little part in any club or organized community life. Evidences of lack of direction and purpose, recur so frequently that they cannot be ignored. Psychiatrists have repeatedly emphasized the desirability that every individual should have a hobby as a means of prevention of mental disease. More properly, it might be said we require some definite interest and objective, and it is apparent that a lack of development of such interest contributes to the formation of criminal personality. The operation of instinctive sexuality, particularly as it involves abnormality, inversions and perversions, has not been touched upon, and the discussion has been confined mainly to material suggested by our special investigation of cases examined by the Division for the Examination of Prisoners. No discussion of this character, however, would be complete without some special comment regarding the prevention of crime. In this, I am hardly a faddist. I have no sympathy, of course, with the belief that increasing penalties and severe treatment will be of any material value as preventive measures. Such legislation as the Baumes Law in New York, will, of necessity, defeat its own purpose. Jurymen rather than repeat a legislative blunder by any action on their part, will find prisoners "not guilty", because they cannot conscientiously be a party to such arbitrary and headlong disregard of the principles of humanity, justice, and good sense. So far as crime can be controlled by administration of punishment, it seems quite clear that reasonable certainty of apprehension, followed by prompt court action, would do more than any methods of severity. So reactionary a step as the re-establishment of the whipping post is unworthy of serious consideration in an enlightened community. If legislatures are foolish enough to pass such laws, the juries will do their part to negative this error. A serious offender for whom the punishment might be intended is unlikely to receive it, and it would more frequently be resorted to in the case of some friendless dolt who is the victim of circumstances, as often as he is of viciousness.

As to capital punishment, I have mixed feelings. I refuse to deceive myself with any sophistry that the average criminal would prefer capital punishment to actual life imprisonment. On theoretical grounds, it might seem that he should have such a preference, and, no doubt, there are cases where the offender would prefer death to permanent prison isolation, but I have not found it to be true in practice. I am disinclined to believe that capital punishment, however, is in any way a specific deterrent of crime, or that its effect is any more potent than the deterrent effect of life imprisonment. You will recall that recently three young men were arrested charged with murder in the death of a gas station attendant, who was killed during armed robbery. The day the papers announced the apprehension of these three boys on this capital charge, with the headlines in the same paper that the District Attorney had their confessions and their electrocution might be expected, there was the murder of another gas station attendant directly across the street from the scene of the previous killing. In general, I rather believe that the death sentence should be abolished, or that it should be resorted to only in exceptional instances. The modernization of criminal court procedure, the elimination of trial delays, reasonable certainty of apprehension, prompt conviction of offenders, are the important points if deterrance is the objective.

Offenders rarely consider the question of punishment when committing crime, partly because the likelihood that they will escape detection is very great, and partly because experience has shown that various influences may be brought to bear to avoid penalty even if detection does occur. My experiences does not coincide with that of some observers who say that they never talked to a prisoner who considered the possibility of arrest before he committed a crime. I have talked to many prisoners who admitted that they had thought about the penalty, but that the chances of escape seemed to be fair, and the reward for success seemed to be sufficient to justify the risks. I have seen others who, from their attitude, would apparently have committed the offense even if they expected to be caught, because their previous experiences in criminal activities have shown it to be fairly profitable, and easy money obtained in this manner had made the profits of legitimate endeavor seem infinitesimal and unworthy of consideration.

The complete eradication of crime is hardly to be expected. The conflict between egocentric instinctive inclinations and the gregarious instinct will never attain a sufficiently perfect balance to permit a highly developed civilization to exist, entirely free from delinquency and criminality. Even with the etiological factors positively known and understood, forces motivating the action of individuals would give rise to variations in behavior and under all circumstances, there would remain at least a residium of crime. Beside this, cure does not necessarily and automatically follow a discovery of cause, of either physical or social ills. That general paresis and certain other organic brain disorders are directly due to a syphilitic infection, the nature and the modes of transmission of which are fairly well understood, has not resulted in the eradication of either the primary disorder or its later complications. The ten percent of mental cases admitted to hospitals because of alcoholic psychosis, and the cases admitted because of the use of drugs, have not been eliminated, although the causes are known and individually controlable. We will hardly hope to eliminate, but rather expect to acquire some control over criminal actions through intelligent preventive measures, rational method of disposition and treatment of offenders, with attempts at rehabilitation and readjustment. To accomplish this, the anachronisms of the practice of criminology must be eliminated. Not more laws but the simplification of existing laws is required The speeding-up of court actions and the simplification of court procedure, together with the establishment of scientific examining and investigation facilities for the courts, appear to be rational and desirable. The discontinuance of trial by the press should be accomplished in some manner.

The delusion that cruelty and retributive vengeance through harsher laws and longer sentences will free society from the menace of the criminal must be overcome. The whole question of crime should be subjected to disinterested, theoretical, and statistical examination. Expansion of the jurisdiction of the juvenile courts, and of probation departments providing trained social service supervision, is needed; and, lastly, social service, psychiatric, medical and other scientific means for the thorough study examination of criminals is indispensable to any adequate understanding of the delinquent, or of the problems of crime. The development of a criminology worthy of any claim to recognition as a science awaits the adoption of the scientific attitude and method. It was my good fortune during the month of October to attend a meeting of the American Prison Congress at Louisville, Kentucky. On my return, I stopped off for a day in one of the large cities of the mid-west for a visit, and while there I learned of the most interesting bit of medicolegal procedure. In one of the out-lying cities of that State, with a population of more than fifty thousand, a serious crime had been committed, and a man had been arrested on a charge of murder. At the time the trial was to start, certain remarks were made indicating that possibly the man was suffering from a psychosis. Having no desire to place the defendant on trial if insane, the judge ordered the clerk of the court to go in company with a constable to the jail, where the defendant was held, to make an examination and investigation, and to report to the court whether or not the defendant was insane. Such absurd procedure, however, is of less consequence in delaying the acceptance of scientific attitudes in criminal practice than are the more subtle resistances arising from attitudes of indifference, and even superciliousness so often shown to scientific advantages by those properly concerned in criminal matters. Such extreme and obvious disregard of all pretense to competency, such stark stupidity as represented by this travesty of justice, would in itself initiate a corrective reaction. Such instances are so glaring that they cannot pass unnoticed, while the more assiduous and polite resistances arising from smug self-assurances that scientific methods are unnecessary and should be viewed with suspicion which seems practically to be the attitude on such question on the part of many of those working in this field. The psychiatrist has no desire to take over the functions of penology, nor is it his desire to usurp the limelight and assume the role of that ill-defined character, the "criminologist." It seems clear, however, that in attempting to deal with crime in a modern way, the methods of science cannot be ignored, and the psychiatrist feels that his work has a necessary place, at least in the more specialized phases of crime study.

AN INTENSIVE STUDY OF EIGHT CASES OF HYPERACTIVITY IN PRE-SCHOOL CHILDREN WITHOUT GROSS PATHOLOGY

A dissertation based upon an investigation at the Habit Clinic for Pre-School Children Boston, Massachusetts. Submitted in partial fulfillment of the requirements for the degree of Master of Social Science.

By Bertha M. Jenkins
Smith College School for Social Work, August, 1931

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KEY LIST

Title — An Intensive Study of Eight Cases of Hyperactivity in Pre-School Children without Gross Pathology.

Thesis	*Patient*	*Record number*
1. Case One	M. C.	No. 1470
2. Case Two	J. J.	No. 1412
3. Case Three	E. D.	No. 801
4. Case Four	W. W.	No. 1533
5. Case Five	W. B.	No. 1421
6. Case Six	J. M.	No. 1536
7. Case Seven	J. M.	No. 1380
8. Case Eight	M. S.	No. 1540

Introduction

In the field of Child Study, including schools, child guidance clinics and other children's agencies, the term 'hyperactivity' to designate a certain behavior pattern in children, appears to have developed into common usage. This term produces a fairly definite and uniform picture in the minds of the users, as to the behavior pattern represented. However, the possible causes of the conduct signified by 'hyperactivity' are the subject of much controversy with no adequate scientific experimentation to establish the validity of any one theory.

Current suppositions as to the origin of hyperactivity seem to fall into three general classifications: (1) hereditary, (2) physiological, under which heading may be listed; endocrine disturbances especially hyperthyroidism, fatigue, malnutrition, eye-strain and irritation in central nervous system, (3) socio-psychological, under which heading may be listed; an attempt to escape from some unpleasant situation, which mechanism may be motivated by feelings of guilt, *i.e.*, masturbation, lying, stealing and truancy, and by feelings of insecurity, *i.e.*, parental attitudes of rejection or over-protection, inconsistent discipline, emotionally unstable parents, marital discord and friction in family.

The suppositions based on hereditary factors will not be considered in this study due to the lack of criteria and data by which their validity might be tested. White[1] says, "In dealing with the subject of heredity, ..., it must not be forgotten that our ideas are of necessity largely founded upon hypotheses, as biological science has not yet unfolded a sufficient number of facts to make it possible for us to tell just how much, in any individual case, must be attributed to the inherent qualities of the "germ plasm" and just how much to the influences of environment."

However, it must be borne in mind, that hereditary factors can not be ruled out. In this connection Jennings[2] may be quoted, "Since mental characteristics depend upon genes, they must, like other characteristics that depend on genes, be subject as generations pass to peculiarities of distribution, to rules of inheritance, that depend on the way the genes are distributed. Very great mental diversities, such as feeblemindedness in contrast to normality, manifest clearly these typical rules of inheritance; and the same is true for sensory diversities that are little affected by environmental conditions. But most mental characteristics are so greatly affected by the conditions under which the individuals live that rules of inheritance lose their sharp definition, become blurred and unrecognizable. Nevertheless, they continue to exist for the genetic constitution on which the diverse environmental conditions act."

This study was undertaken in the hope of discovering some salient causative factors underlying hyperactivity, which would either confirm or refute the current suppositions based on physiological or socio-psychological factors.

II. Criteria for Selection of Cases

At the time the study was undertaken at The Habit Clinic for Pre-School Children in Boston, Massachusetts, there were nineteen active cases with a diagnosis of hyperactivity. Seven of these nineteen cases were eliminated at the beginning of the study for the following reasons:

1. Epilepsy
2. Feeblemindedness.
3. Cardiac Condition.
4. Incomplete history.
5. Incomplete history.
6. Incomplete history
7. Inadequate picture of hyperactivity.

An intensive study was begun on the remaining twelve cases.

To carry out the purpose of the study the following examinations and tests were judged to be essential: vital function tests, including; basal metabolism, urine analysis (routine and nitrogen partition), blood examination (morphological, chemical and Wasserman,) and vital capacity. Also a series of special tests including; x-rays of head and chest, neurological examination, ophthalmologic examination and a complete physical examination.

Dr. Alan W. Rowe, endocrinologist, Director of Research at the Evans Memorial Hospital, Boston, Massachusetts, consented to supervise these tests and examinations to be given at the hospital and to evaluate their findings. Four more cases were then eliminated from the study, patients chronologically under four years of age. This is the minimum age level at which the tests, considered as a whole, have diagnostic value. Cooperation of the patient is an essential part of a basal metabolism and vital capacity test, which would be very difficult, if not impossible to obtain from children under four years of age. The case records of the remaining eight children form the subject matter of this study.

In summarizing the case records a uniform outline was followed for all the cases. This outline endeavored to include all data which might have any significance in relationship to causal factors of hyperactivity. It also included, manifestations of hyperactivity, which were the descriptive terms used either by parents, school or clinic staff.

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[1] White, William A., *Outlines of Psychiatry*, 12th ed., Washington: Nervous and Mental Diseases Publishing Co., 1929, p. 37.

[2] Jennings, H. S., *The Biological Basis of Human Nature*, New York: W. W. Norton and Co., Inc., 1931, p. 181.

In attempting to interpret and evaluate these case histories as to possible etiology of hyperactivity, there are certain factors to be considered. These are namely: the reliability of the sources of information, and the element of personal equation. Thus, allowing for considerable personal bias on the part of the parents and those persons who make up the family, the composite picture of the patient's behavior pattern as presented also includes the objective observations made by the school and the clinic staff. In no case were there any indications that implied prejudice on the part of the school or clinic toward this particular type of behavior problem.

The complete medical reports of the eight cases will be found in the appendix.

III. Case Summaries with Critiques

Case One: Female — Six years, five months. Intelligence Quotient 90. Nationality Unknown.

Problems —

- Hyperactivity
- Temper tantrums
- Auto-eroticism
- Lying
- Stealing
- Swearing
- Truancy
- Disobedience
- Destructiveness
- Enuresis

Social Problems —

- Illegitimacy
- Adopted child
- Compound family
- Ignorant parents
- Friction in family
- Mother 18 years older than father

Manifestations of Hyperactivity —

1. "Very restless and distractable"
2. "Wild"
3. "Very destructive"
4. "Never still, always running about"
5. "Inability to concentrate"
6. "Noisy, talks continually"

Physical History —

1. Prenatal — Illegitimate. Father unknown. Mother, young girl in good health.
2. Birth — Normal delivery. Born at St. Mary's Infant Asylum.
3. Development — Well baby. No feeding difficulties. Talked at 17 months. Walked at 19 months. Retarded dentition.
4. Always in good health. Only contagious disease, chicken pox.
5. Physical appearance — An ordinary-looking, pale-faced, fair-haired little girl. Thin, appears under-nourished. Medium height, rather poor build.

Psychological Examination — Given at clinic Nov. 4, 1930.

Chronological age 6 years, 5 months. Mental age 5 years, 10 months. Intelligence Quotient, 90.

1. Response to Situation — Difficult to examine. Hard to hold to task, making rushes to go out. Attention easily distracted. Quality of answer poor.
2. Intellectual development — Basal year 4 and passed 2 items in the 7th year with a repeating of digits in 10th year. Performance tests lower. Average and mediun 4–5 with a scattering from 3–7th year.
3. Attention — Poor. Easily distracted and periods of concentration short.
4. Psychomotor development — Good physical development, but motor coordination of smaller muscles poor; handles pencil poorly.
5. Memory — good auditory memory.
6. Language Development — No speech trouble, but a poor language development.
7. Reasoning and Judgment poor.
8. Summary — Will doubtless take a good degree of training of an imitative rote nature and from concrete situations. Affect is poor. Easily distracted and wanting change. Curious but doing nothing with material after it is given her.

Personality —

An undisciplined and poorly trained child. Behavior based on an instinctive level, manifested by temper tantrums, lying, stealing, swearing, auto-eroticism and destructiveness. Asocial in her attitude toward other children, strikes and hits them whenever possible. Laughs a great deal in a loud, foolish manner, but does not appear to be happy. Very acquisitive. Abnormal curiosity, acts suspicious and apprehensive. Very restless, unable to concentrate; talks continually.

Home Situation —

1. *Physical* — Family live in a small house in a rather nice tenement district. House is plainly furnished but comfortable, neat and clean. Mother, father and patient sleep in one room, patient in small bed beside parents' bed.

   Small, attractive yard on side and back of house, fixed up as a garden. Patient is largely confined to this yard, as mother does not allow her to play on the streets, although there is little traffic.

2. Economic — Father had steady work up until November of last year as coal shoveler. Has had very little work this winter. Income marginal.

3. Surrounding Personalities — *Father* age 44 years. Born and brought up in Ireland. Very little schooling. Came to America in 1914. Always worked as coal shoveler. First wife and two children died. Married again, desiring children. An easy-going, kind-hearted person, when sober, frequently intoxicated, becomes troublesome when under influences of alcohol. Ignorant and uneducated.

   Mother — age 62 years. Born and brought up in Ireland. Peasant stock. Ignorant and emotional, cries very easily. Has always enjoyed excellent health. Is a good housekeeper, neat and clean. Is especially fond of flowers, has cultivated attractive garden in back-yard. Is very suggestible, takes advice without discrimination. Mother over 50 years of age at time of marriage. Adopted patient to pacify father, who did not know her age when they married.

   Maternal Aunt — About 50 years of age. Unmarried. Been in home for past year, unable to obtain work. Occupation that of waitress. Ignorant and very sentimental.

Relationships in Household —

Mother and father appear to be fairly compatible. Father is genuinely fond of patient but has no control over her. Mother wishes she had never adopted her, but claims she has some affection for her, but rarely shows any demonstrative affection towards her. Patient seldom kisses or loves mother. Parents completely dominated by patient, who if crossed will threaten them with assaultive weapons. Mother is thoroughly convinced that patient is determined to have her own way and that it is useless to attempt to stop her from doing as she desires. Maternal aunt is very sentimental over patient and caters to her every whim. Refused to co-operate with parents when they endeavored to show a little authority by demanding some obedience from patient.

School Situation —

Attended kindergarten at the age of four. Stayed in kindergarten two years, on advice of teacher, who felt patient was "queer" and hard to manage. Entered first grade this fall. In upper division of class, divided for ability to do work. Teacher did not find her especially troublesome.

Therapy —

Placement recommended for six to twelve months as a minimum, if parents would not consider permanent placement. As it was felt the problem was obviously too much for the parents, patient was to be placed through the Home for Little Wanderers after a period of observation in the Home. Patient was placed in Home for Little Wanderers, but as parents refused to allow placement, returned home after period of four weeks observation. An attempt was made by intensive social service work to help patient toward a better social adjustment. But clinic failed to do this, not having the authority to remove patient from her present environment.

Present Status —

Patient is still presenting problems for which she was recommended to clinic, with the added problem of school failure. Since her return from Home for Little Wanderers, has made no attempt to do school work. Is becoming more troublesome in school, annoying other children and then blaming them for starting the trouble.

Critique of Case One

The results of the following tests and examinations: two Basal Metabolisms, Blood Examination (Morphological), Urine-analysis (Routine, Nitrogen Partition and Galactose), Alveolar CO_2, Vital Capacity, X-ray of chest, Neurological, Audiogram, Ophthalmologic and General Physical, indicate that there are no evidences of hyperthyroidism or eye-strain. Patient is shown to be 13% underweight, but physical examination shows no other outstanding symptoms or signs of malnutrition. In evaluating the tests and examinations as a whole, the following opinion is expressed by Dr. Rowe[1], "On the basis of probability there are two factors to be considered. One is injury to the central nervous system, the other a possible pituitary condition." Further examinations are recommended. However, due to the time factor, this present study is not able to include these examinations.

The results of the Stanford-Binet and Performance Tests give no clues as to causal factors of hyperactivity, but patient's reaction to the test situation, given under optimum conditions, suggests the possibility that there are socio-psychological factors which might be significant.

In examining the psychiatric problems presented in the case, without attempting to analyze their motivation, we can hardly question the probability that the patient is suffering from some feelings of guilt in regard to her masturbation, lying, stealing, swearing and truancy.

Upon examination of the social situation, we find plenty of evidence to justify the belief that the patient is suffering from feelings of insecurity. The most outstanding contributory factors are illegitimacy, adopted child, ignorant adopted parents, poor training, inconsistant discipline, alcoholic father and maternal rejection.

The strongest evidence in this case seems to support the supposition that hyperactivity has a socio-psychological origin. The hyperactivity in this case is motivated primarily by feelings of insecurity, aggravated and enhanced by feelings of guilt.

Case Two: Male — 6 years, 4 months. Intelligence Quotient 95. American.

Problems —

Hyperactivity
Unmanageable at home and school
Truancy
Disobedience
Temper tantrums
Fire setting
Pugnacity

Social Problems —

Mother — poor physical condition.
Father — Overstrict.
Divided discipline.

Manifestations of Hyperactivity —

1. "Patient is wild."
2. "Restless."
3. "Destructive."
4. "Extremely active, does not twitch or shake but must be moving every minute."
5. "Talks incessantly."
6. "Nervousness."
7. "Lack of concentration."

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[1] See Appendix, Case One.

Physical History —

1. Parental — Parents well.
2. Birth — Full term, normal delivery. Weight 7½ pounds.
3. Development — Breast fed 1 year; bottle until 14 months. Walked and talked at 13 months.
4. Health — Fairly good physical condition. Only contagious disease, whooping cough at 2 years of age. Had tonsils and adenoids removed at 4 years. Subacute chorea this past winter; recovered before coming to clinic.
5. Physical appearance — Fair-haired, blue eyed little boy; thin and undernourished.

Psychological Examination — Given at clinic May 27, 1930.

Chronological age 6 years, 4 months. Mental age 6 years, 0 months. Intelligence quotient 95.

1. Response to Situation — Friendly, cooperative and self-reliant. At first showed nervousness, but quieted down readily in a tranquil atmostphere. From time to time, however, he became excited when not immediately successful, and then would pound the blocks in an attempt to force them into position.
2. Intellectual Development — Intelligence Quotient 95. The six performance tests average somewhat lower. He made a good degree of improvement when given several trials on the Mare and Foal test and his Stanford-Binet record suggests a rather good type of mind.
3. Attention — Good.
4. Motor-coordination — Somewhat retarded. Hands not very steady. He seems to be right handed.
5. Perception — Normal.
6. Language Development — Normal. Speech is very indistinct.
7. Memory — Normal.
8. *Summary* — Normal intelligence. As seen in this interview the nervousness and hyperactivity seem to be on a habit basis and the boy appears to respond to a favorable environment.

Personality —

Began to show evidence of present problems and personality trait at two years of age. Always active; enjoys vigorous activities; is pugnacious and and enjoys hitting both children and adults; is rough and destructive; lies defensively; uses obscene language; seems to enjoy causing trouble; has poor habits of personal hygiene; is restless and talks in his sleep; does not eat well at meal time but eats a great deal between meals; shows affection toward mother and baby sister.

Home Situation —

1. Physical — Family live on the second floor of a wooden tenement in a congested district. There is no yard in which patient might play. Rooms are light and airy, and, though scantily furnished, they are livable and homelike. Patient sleeps in room by himself. Little play material in home.
2. Economic — Marginal. Father unemployed greater part of winter. Works as truck driver, earning $25. a week.
3. Surrounding Personalities — *Father* age 35 years. Born and brought up in Boston. Only child. Paternal grandfather died when father was 3 years old. He was boarded out during day while paternal grandmother worked. He is a hard worker; had little education, works as laborer; served overseas during war. He is high-tempered, rough and abusive in his language, when angry; is over-strict in his demands upon patient.

   Mother age 30 years. Born and brought up in Boston. Oldest of five children. Took responsibility of household at death of maternal grandmother, when she was 11 years of age. Finished grammar school. Worked in box-factory until marriage 10 years ago. Always in good health before marriage. Two years ago very ill with rheumatic fever. Had difficult time at birth of last baby, when she was taken ill with influenza. Has lost 30 pounds since then, now weighing 88 pounds. Has bad inguinal hernia, which should have surgical attention. Heart slightly impaired. Physical condition is poor. She is chronically tired and worried. Discouraged over financial difficulties. Keeps putting off going to hospital. Is weak and ineffectual handling patient.

Siblings — A — 8 years. Third grade in school; doing well. Never troublesome. He has lived with paternal grandmother since a year old.

B — 1 year. A quiet, healthy baby girl. Favorite of both parents.

Relatives — Maternal grandfather and maternal siblings living and well. Maternal Grandmother died at 29 years of age at child birth.

Paternal grandfather died when father was three years old. Paternal grandmother living and well. A forceful, hard working woman, who has no use for mother as she thinks she is a weakling.

Relationships in Household —

Patient is the cause of much friction between the parents. Mother is on the defensive with father; feels he does not back her up or understand her difficulties. Father accuses mother of mismanaging patient. He abuses her before patient for this. Father refused to play with patient but plays with baby instead. Father blames mother for all patient's faults. Father is chief disciplinarian. Gives patient severe beatings; patient is afraid of father, but has no respect for mother's authority.

When patient was 2½ years of age, parents separated, following a period of marital difficulty. They were separated for about two years; during this time patient was first with mother and maternal relatives, then he was placed in a boarding home where he was very much neglected and it was thought, abused. Finally his father took him to live with paternal grandmother, where he began to grow unmanageable; father became over-strict with him.

School Situation —

Attended kindergarten at five years of age. Was very difficult to manage. Truanted during kindergarten without mother knowing it. Entered first grade this year, but was such a problem, and so quickly built up such a bad reputation for himself that mother moved to another district. In this district, teacher reported patient did good school work but was very disturbing. Consciously tried to make trouble and was very rough with other children. Truanted from school for week at a time.

Therapy —Summer placement was recommended, and patient spent whole summer on small farm in Vermont. Patient enjoyed the farm tremendously and presented no serious problems while there. Returned home in the fall, greatly improved in general health and conduct. During August, mother and baby went to Mother's Rest. While there, mother improved somewhat in health and took a more optimistic viewpoint on home situation.

Clinic met with considerable success in changing parents' attitude towards patient. They show him more kindness and consideration, not making unreasonable demands of him, and father refrains from using severe beatings as a form of punishment.

Present Status —

Patient is happily looking forward to going away to the same farm in Vermont, where he spent last summer. Patient is still hyperactive, but much less so than before clinic contact. His behavior at home is greatly improved, but he still fights a great deal with children in neighborhood. He is in second grade in school doing satisfactory work and making a fairly satisfactory social adjustment.

Mother is about to be operated upon for hernia, after which time she will probably to to Mother's Rest to recuperate.

Critique of Case Two.

The results of the following tests and examinations: two Basal Metabolisms, Blood Examination (Morphological), Urineanalysis (Routine and Nitrogen Partition), Alveolar CO_2, Vital Capacity, X-ray of Chest, Neurological, Audiogram, Ophthalmologic and general Physical, indicate that there are no evidences of hyperthyroidism or eye-strain. Patient is shown to be 14% underweight with a slight anemia but no real malnutrition. Evaluating the results, Dr. Rowe[1] expressed the opinion, "He is probably not endocrine." Further study is advised.

The results of the Stanford-Binet and Performance Tests are not indicative of causal factors of hyperactivity. However patient's response to the test situation is indicative of a possible socio-psychological basis of hyperactivity.

Upon examination of the social situation, we find that the patient's sense of security is greatly threatened due to marital discord, mother's very poor physical condition, inconsistent and divided discipline, and parental rejection.

In this case if we accept the theory that patient's hyperactivity is an attempt to escape from the unpleasant, motivated by feeling of insecurity, we have the opportunity to test the validity of this theory by examining patient's reactions in an environment producing a sense of security and again in his former environment with a change in parental attitudes, which give a greater sense of security, than formerly.

In the new environment, mentioned above, we find patient's general behavior greatly improved and the manifestations of hyperactivity reduced to a level of activity accepted as normal. In the altered home environment, in which there is more kindness and affection shown toward patient and less unfavorable comparison with sibling, than formerly, we find patient exhibiting some hyperactivity, but proportionately less than when there was more evidence to justify our belief that patient was suffering from feeling of great insecurity.

Therefore, we conclude that the predominating causal factors of hyperactivity as manifested in this particular case are of a socio-psychological basis.

Case Three: Female — Five years, five months. Intelligence Quotient 93. American.

Problems —

Hyperactivity
Occasional Enuresis
Masturbation
Temper tantrums
Over-demonstrativeness
Destructiveness
Pilfering
Lying
Disobedience
School failure
Left-handedness

Social Problems —

Father — erratic and unstable.
Father — disease — syphilis, diabetes, chronic alcoholism
Mother — ignorant.
Rejection (considered black sheep of family)
Marital friction
Deception between parants.

Manifestations of Hyperactivity —

1. "Noisy, continually talking both at home and school."
2. "Inattentive and distractible"
3. "Destructive."
4. "Will not wait her turn in games or in school."
5. "Performs silly antics in school."
6. "Restless and fidgety"
7. "Wants to investigate everything"
8. "Rapid and incoherent speech."
9. "Purposeless manner in running about."
10. "Tense and impatient."

Physical History —

1. Prenatal — Mother worried over father's conduct.
2. Birth — Full term — normal delivery. Weight 5 pounds, 15 ounces.
3. Development — weaned at one month. Walked and talked at two years.
4. Health — Always thin child. Chicken-pox at 2 years. Examination at Massachusetts Eye and Ear Infirmary December 26, 1929. Diagnosis: Hyperopia. Wasserman and Hinton tests negative.
5. Physical appearance — Thin, rather pale, small features. Self-conscious manner.

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[1] See Appendix, Case Two.

Psychological Examination — Given at Clinic November 26, 1929.

Chronological age 5 years, 11 months. Mental age 5 years, 6 months. Intelligence Quotient 93.

First psychological examination given June 18, 1929. Chronological age 5 years, 5 months. Mental age 4 years, 2 months. Intelligence Quotient 77.

As a number of failures were on tests calling for visual discrimination an eye examination was recommended and a psychological re-examination in six months.

Results of retest:

1. Response to Situation — Rather nervous and restless, but concentrated pretty well and seemed to enjoy the tests.
2. Intellectual development — Now appears to be normal.
3. Attention — Fair.
4. Motor-coordination — Child is left-handed, uses pencil with left hand and scribbles from right to left.
5. Perception — Normal.
6. Language development — Normal.
7. Memory Span — Normal.
8. *Summary* — This child now makes a distinctly favorable impression. She is alert and spontaneous. Her intelligence seems to be normally developed and of a rather good type.

Personality

Tense and self-conscious, eager for approval and affection; responds to any show of affection by being over demonstrative. Fearful of punishment, lies to avoid it. Goes at activities eagerly and carelessly. Stubborn and defiant: fails to conform in group; likes to gain attention. Steals small articles and sums of money. Is destructive, tears clothes, destroys material at school and at home. Sloppy and dirty about feeding and dressing habits. Occasional spells of enuresis, usually coincident with a particularly severe spell of misconduct. Mild — auto-eroticism since infancy.

Home Situation —

1. *Physical* — At time of referral in 4 room tenement flat, now in 6 room flat on ground floor. Mother tries to keep home clean and attractively furnished. Congested district, small back yard and streets for play space. Poor play material.
2. Economic — Marginal. Family have received aid during father's periods of hospitalization.
3. Surrounding personalities — Father 41 years old. Born in Massachusetts. One of eleven children. In service during war. Since then has been extremely nervous and alcoholic. Treated in United States Veterans Hospital 12 years ago for diabetes and "Nerves." Was diagnosed: Constitutional psychopathic inferiority. Married ten years ago when mother was discharged from State Infirmary with illegitimate child. Two years ago was in Chelsea Naval Hospital; diagnosis: Diabetes mellitus, syphilis, and chronic alcoholism. Left hospital against advice.

   Extremely erratic and unstable; fidgets and talks incoherently; easily irritated; irresponsible. Does not cooperate in medical treatment. Works steadily as laborer in City Ash Department, despite almost daily drunkenness.

   Mother — Age 37 years. Was a State ward as both her parents died when she was a young child. Completed third year High School. Took some training at Boston State Hospital, worked as stenographer, and later as a maid. Ten years ago had illegitimate child, married father day she was discharged from the State Infirmary. Says she knew he was "nervous" and that he drank before she married him.

   Ignorant but apparently well-meaning. Anxious to provide a good home for her children. Wasserman negative.

   Siblings — M. 10 years. Illegitimate child. Attractive, takes responsibility well; no problem. Wasserman negative.

J. — 9 years. Bright, alert and active child. Occasionally disobedient. Wasserman negative.
E. — Died at six months of dysentery and pneumonia.
W — 4 years. A responsive, happy-appearing child. Easy to manage. Wasserman negative.
G. — 1 year, 4 months. Wasserman negative.
Paternal Relatives — Nothing to do with family.
Maternal Relatives — Died when mother was an infant.

Relationships in Household —

Due to mother's determined efforts this has remained a stable home. Father is irresponsible, takes no part in household responsibilities. Continual friction between parents. Mother extraordinarily unresentful of father; however, as she feels his conduct is the result of disease, and merely tries to protect herself and children from him. Does not argue with him. Deceives him, especially in regard to money matters. One of the worst things patient can do is to tell father where mother has hidden money.

Mother, because of her own unhappy childhood, is determined to give her children the best training possible and does so to the best of her ability. Feels strongly when her attempts fail, is hurt that she gives so much time and attention to patient, who appears not to appreciate it. Mother looks upon patient as the black sheep of the family, believes she is not "right mentally." Sees physical resemblance to father and feels her personality traits are similar to his. This resemblance is extremely irritating to mother. Mother is cold towards patient, gives affection seldom and reluctantly. Never takes patient into her confidence. Always emphasizes the bad and minimizes the good points. Patient is the least attractive and the least liked of the children. Is denied normal amount of love and security.

Discipline — Father nervous and irritable, cannot stand to hear the children cry nor see then in normal play activities. When he is home they are very much restricted, but mother is the one who adminsters discipline. Mother is severe, relentless and harsh in discipline. Rules with an iron hand. Is especially severe with patient. Patient is stubborn and defiant or tries to divert mother's attention when being disciplined. Appears tense and afraid.

School Situation —

Patient entered kindergarten in Parochial School at the age of 5 years, 8 months; three months after first clinic contact. Was excluded from kindergarten after two weeks, because of poor conduct and because Sisters felt she was not "right mentally." Patient then entered public school, first grade. Teacher was seen frequently by social worker to encourage her interest in patient's behavior problems, especially those associated with left-handedness. Patient responded well to the intelligent, understanding attitude of the school, and after the first few months her conduct became less disturbing and she took hold of the school work sufficiently to be promoted to second grade. In the second grade she has been in the slow division, but her conduct has not been disturbing.

Therapy —

Treatment has largely focused on the mother, as it was felt that her attitude towards patient was the basic factor in patient's problems. Through interviews with psychiatrist at clinic and with social service visits into the home, mother has been given some insight into her relationship with patient, and into the poor marital situation. She has been reassured as to patient's mental equipment. In dealing directly with patient, the clinic has given her some feeling of security by showing confidence in her. The school situation has been dealt with as discussed above. Following first clinic contact, patient had eyes examined and was given glasses. In view of father's condition, Wasserman and Hinton test were given, results being negative. End of eight months, prognosis seemed so poor that placement was suggested. Soon after this, there was a change in home situation. Father became interested in baby and did not drink so heavily as previously. Mother became more optimistic in attitude towards patient. During summer months, patient was placed in a foster home and made a good adjustment.

Present Status —

Case has been active for two years and is still under treatment. Patient's present behavior is much improved over her conduct of 2 years ago. There is still a great push of speech and activity, but more conformity and concentration. In school, where she is away from mother's negative, stern attitude and where she has been given a feeling of confidence in herself, she is making a good adjustment. She conforms to the group, concentrates, and except for fidgeting and restlessness, does not stand out from the group. Mother's attitude towards patient has shown considerable improvement. Mother actually seems to take pleasure in having patient read for visitors and in showing off her good points.

CRITIQUE OF CASE THREE

The results of the following tests and examinations: two Basal Metabolisms, Blood Examination (Morphological), Urine-analysis (routine and Nitrogen Partition), Alveolar CO, Vital Capacity, X-ray of chest, Neurological, Ophthalmologic and General Physical were essentially negative in regard to probable causes of hyperactivity. In evaluating the tests and examinations Dr. Rowe[1] expresses the following opinion, "I frankly see but little evidence of an endocrine condition though a pituitary factor is not excluded. A luetic taint or central nerve pathology seem to me much more probable."

Stanford-Binet and Performance Tests are not indicative of etiology of hyperactivity.

There are many factors in this case, which suggest that the hyperactivity is largely of a socio-psychological nature. Upon examination we find; father erratic and unstable suffering from syphilis, diabetes and chronic alcoholism, marital friction and deception between parents; ignorant parents, maternal rejection. All of these are contributory factors in producing feelings of insecurity in patient.

Throughout treatment we find that patient's general behavior pattern, including hyperactivity improves or becomes more exaggerated corresponding to mother's changes in attitude. We also find that patient makes a good school and foster-home adjustment with less manifestation or hyperactivity.

We therefore conclude in this particular case that hyperactivity is largely of socio-psychological origin. A symptomatic behavior response motivated by a sense of insecurity which has as its basic factor, maternal rejection.

Case Four: — Male — 6 years, 3 months, Intelligence Quotient 128. American.

Problems —

Hyperactivity in home.
Nocturnal enuresis
Lack of concentration.
Incorrect School Placement.
Fabrications of an imaginative nature.

Social Problems —

Only child.
Broken home (divorce)
Over-protective mother
Economic dependence of mother upon grandparents.
Mutual antipathy between patient and maternal grandmother.

Manifestation of Hyperactivity —

1. "Lack of Concentration."
2. "Easily distracted."
3. "Never still."

Physical History —

1. Prenatal — Parents in good health. Father deserted mother when she was one month pregnant.
2. Birth — Full term. Normal delivery. Weight 8 pounds, 12 ounces.
3. Development — bottle fed until 14 months. No feeding difficulties. Normal dentition. Walked at 10½ months. Talked at 18 months.
4. Health — General health good. Chicken pox at 3 years, whooping cough at 5 years. Tonsilectomy at 5 years. Very susceptible to head colds.
5. Physical appearance — Well built. Attractive looking.

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[1] See Appendix, Case Three.

Psychological Examination — Given at clinic January 31, 1931.

Chronological Age 6 years, 3 months. Mental Age 8 years. Intelligence Quotient 128.

1. Response — Responsive and co-operative. Seemed to enjoy doing things for the examiner.
2. Intellectual Development — Basal year 7 and passed 1 item in the 10th year. Performance series confirmed this development.
3. Attention — Good.
4. Psychomotor control — Good physical development. Quick, but well controlled.
5. Memory — Good.
6. Reasoning and judgment — good. Quick grasp of directions. Methods of working good. Quality of work good.
7. Language development — Good.
8. Social development — Good.
9. *Summary* — A bright boy who, if he is failing in first grade work, is not failing because of lack of intellectual acumen.

Personality —

A bright child; very vivid imagination; uses language exceptionally well; very sociable; well poised; possesses qualities of leadership. Sleeps well. Is a finicky eater. Never showed any signs of nervous habits. Has had nocturnal enuresis since 3 years of age. At home is never still, does not concentrate well.

Home Situation —

1. Physical — Family live on ground floor of a small two family house. Attractive in appearance with plenty of yard space. House is adequately furnished. Patient sleeps in separate bed in mother's room.
2. Family dependent upon maternal grandparents.
3. Surrounding Personalities — *Father* 41 years old. Unknown to patient who believes he is dead. *Mother* — age 32 years. Only child. Born and brought up in Hyde Park. Graduated from High School. Trained for Nursing profession in New York. Did settlement work in Episcopalian Settlement House. Enjoyed work tremendously; worked during greater part of pregnancy.

   Always in excellent health. Has had aerophobia ever since adolescence. Ugly disposition as a child, feels she has suffered for it as an adult. Very devout Congregationalist; gets great satisfaction from doing church work.

   Maternal step-grandfather — Age 52 years. Foreman in factory. At present only working two days a week. Discouraged over economic depression. Always in good health. Easy going and very kind. Married maternal grandmother when mother was six years old.

   Maternal grandmother — Age 52 years. Has not been physically strong, since having typhoid and malaria, when mother was a baby. Always, nervous; is very exacting, easily irritated, feels like a martyr, and appears to enjoy it. Enjoys sewing, makes most of patients' clothes.

   Maternal Cousin — Age 26 years. College graduate. Ideal of mother's, who is very anxious that patient grow up to be exactly like him. Set up to patient as example of perfect gentleman.

Relationships in Household —

Home atmosphere is not a pleasant one. Continual friction between maternal grandmother and rest of family. Maternal grandmother appears jealous of step-maternal grandfather's devotion to patient. Patient very sensitive to scolding from mother or maternal grandfather, but appears impervious to chiding received from maternal grandmother. Mother over-protects patient, does not allow him to do anything for himself. Dresses him, picks up all his toys after him, caters to his likes and dislikes. Patient unquestionably holds the center of attention in the home.

School Situation —

Patient started kindergarten at age of 3 years, 9 months. Enjoyed it very much. At 4 years and 9 months entered first grade. Did not like his teacher. Mother interviewed principal and succeeded in having patient transferred to another section of the first grade under substitute teacher. This teacher was very fond of patient, but it is doubtful if he learned a great deal. However, he was promoted to second grade. At the beginning of present school year patient was in Worcester. Was put into kindergarten there as he was not yet six. In November returned home again and was put into second grade. He enjoys school. Was very fond of teacher. Well behaved and exceptionally polite. Teacher allowed patient to do just as he wished. In school work he was tremendously retarded, compared with rest of class. Was unable to read the simplest words, wrote very poorly, had no number concept. Patient did not appear to be aware of the fact that he was not up to other children in his work. Probably due to the fact that he was not made to conform to the group. Liked by other children and leader in many group activities.

Therapy —

School situation was investigated, result being patient was placed in special division of first grade, and given individual attention. Mother was cooperative, and patient's interest was gained in carrying out clinic recommendations.

Present Status —

Patient is doing good school work and will be promoted to second grade. Enuresis problem has entirely cleared up. Mother has obtained position, which keeps her away from home during day. Consequently, patient is becoming more independent in doing things for himself and is concentrating better. Gets along better with maternal grandmother. Patient is going to spend the summer on a farm in Vermont, away from his family.

Critique of Case Four.

The results of the following examinations: two Basal Metabolisms, Blood Examination (Morphological and Wasserman), Urineanalysis (Routine and Nitrogen Partition), Alveolar CO, Vital Capacity, X-ray of chest, Audiogram, Ophthalmologic and General Physical indicate no real evidence of any physiological basis for hyperactivity.

Upon examination of the social situation, we find various possible causal factors of hyperactivity based on the socio-psychological theory, that it is a mechanism used in an attempt to escape from the unpleasant. In the home situation we find an over-protective mother, parents divorced, a rejecting maternal grandmother and an over-indulgent maternal step-grandfather, resulting in friction in the family with divided and inconsistent discipline.

To support this theory we have other factors to be considered. First, that patient presents no evidence of hyperactivity at school or clinic. Secondly, that with a change in the home situation, modifying causal factors of insecurity, we find that patient's manifestations of hyperactivity no longer exist.

Therefore we conclude that hyperactivity as manifested in this particular case is of socio-psychological origin.

Case Five: Male — 5 years, 6 months. Intelligence Quotient 109. American.

Problems —

Hyperactivity
Excitability
Night terrors
Grimacing
Distractibility

Social Problems —

Over-protection

Manifestations of Hyperactivity —

1. "Extremely excitable."
2. "Continually active."
3. "Very distractible."
4. "Extremely nervous."
5. "Lack of concentration."
6. "Inability to relax."

Physical History —

1. Prenatal — mother never so happy or well as during pregnancy.
2. Birth — Full term — normal delivery. Weight 8 pounds, 9 ounces.
3. Development — A quiet, contented baby. Slept well and gained well. Breast fed for 9 months, than drank from a cup. Talked at 11 months, walked at 18 months.

4. Health — excellent since tonsils and adenoids were removed two years ago Prior to that time had frequent colds and gastro-intestinal upsets. "Nervous condition," not noted by parents until about a year ago. Whooping cough this past winter.
5. Physical Appearance — An attractive, red-headed, round-faced little boy, tall and well set up.

Psychological Examination — Given at clinic June 24, 1930.

Chronological age 5 years, 6 months. Mental Age 6 years. Intelligence Quotient 109.

1. Response to situation — Came willingly to have examination. Showed considerable dependence wanting to be assured that he was correct.
2. Intellectual Development — Basal year 4 and passed the comprehension item in 8th year. Performance tests not so high; average and median 5–6 with a scattering from 4th to 5½ years.
3. Attention — Good.
4. Psychomotor control — Good physical development. Good motor — coordination. Attention easily held, fairly persistent if encouraged.
5. Perception — average.
6. Language development — His chief asset. No speech trouble. Gave a good score in Action-Agent tests and uses language well.
7. Memory span — Passed digits in 6th year, fair performance in Cube Imitation.
8. *Summary* — A child with average intelligence. Seems to be a child, who has been with adults a good deal and has acquired a good use of language. In working out problems of his own initiative he does not seem to be quite so far in advance as in his use of language and what is involved in that.

April 7, 1931. Retest given at clinic.

Patient given a short series of performance tests. His method of working probably is quite representative of some of the difficulty that is observed in his school work. A poor worker. He is rash, impulsive; wants to begin a task before he gets the directions. His difficulty is an affective thing which prevents him using well the intelligence he has or making his work effective. Futhermore, he seems too imaginative, which probably is a liability at the present stage.

Personality —

A hyperactive, excitable and easily distracted child. Happy and good-natured. Very talkative and responsive. Exceedingly energetic, enjoys strenuous, active play. Impulsive. A good sport but not much of a leader. Since two years of age has had frequent night-terrors. Occur in early part of night. Patient screams, becomes tense and then shakes hands and arms, breaks out into profuse perspiration. Has excellent appetite and eats well. Early trained in toilet habits. Masturbated for short time about a year ago, entirely cured now. Patient has many different mannerisms, such as blinking eyes, wiping hand across mouth and when tired, pulls his hair.

Home Situation —

1. Physical — Family live on the second floor of an old-fashioned, wooden apartment in nice residential section. Rooms are neat and clean, attractively furnished. Patient has own bedroom. There is a yard in which children can play. Adequate play material in home.
2. Economic — Self-supporting. Father a clerk in Police center.
3. Surrounding Personalities — *Father* 33 years old. Born and brought up in Boston. Irish parentage. Ambitious and hard-working. Attends law school at night. Has always been in good health.

   Mother 32 years old, born and brought up in Boston. Graduated from high school. Worked for ten years in store, became assistant buyer. Enjoyed work a great deal. Was always nervous and underweight. Always active. Married for past 7 years. Has devoted all her time and energy in keeping nice home and bringing up children. Very high-strung and emotional. Intelligent and industrious.

   Siblings — Ages 4 and two respectively. Attractive, good-natured little girls. In excellent health.

Relatives — Maternal relatives live nearby. Family visit maternal grandmother, but children are never left with her. A maternal aunt, a nurse, married, no children; takes a great interest in patient and his sisters. Visits home frequently and advises mother in regard to care of children.

All maternal relatives, nervous, high-strung people.

Relationships in Household —

A very happy united family. Parents devoted to home and children. Very ambitious for children. A very high premium put upon formal social manners. Mother continually correcting children as to "proper manners." A great deal of thought and time spent by mother on training children in good habits or personal hygiene. For discipline, a mild form of corporal punishment is used and is generally effective. Children get along very well together. Apparently no jealousy of one another. There is no evidence of any favoritism shown to any one child by either parent.

School Situation —

Patient has attended kindergarten and is now in first grade. Kindergarten teacher reported patient to be extremely nervous and distractible. Towards end of year, showed some improvement, but would not stay at one activity and was considered hyperactive. In first grade patient has shown quite a change in his behavior, first grade teacher, a very intelligent woman, keenly interested in patient, reports that he is failing in his school work; simply does not do the work and refuses to make any effort. Is no trouble, being very polite, pleasant and obedient, but seems to be content to just sit in his seat and do nothing. Is apathetic in his attitude. Is well liked by other children. Plays mostly with his cousin, who is two years older than patient, and who dominates him a great deal. Recently patient has shown a little more interest in his writing and number work, but has made no progress in reading. There is a question, whether or not he will be promoted, as teacher does not believe he has the foundation for doing second grade work.

Therapy —

Separate patient from his cousin, who is obviously too stimulating for him. Help mother to better emotional control and to have less stress and attention paid to patent. Allow him more independence.

Present Status —

Patient no longer has "night terrors". Does not appear to be as nervous as formerly but still is excitable. At home and school presents apathetic attitude, just sitting around, saying very little. However, out doors and at clinic plays happily and actively, without any evidence of hyperactivity.

CRITIQUE OF CASE FIVE

The results of the following tests and examinations: two Basal Metabolisms, Blood Examination (Morphological). Urineanalysis (Routine and Nitrogen Partition), Vital Capacity, X-ray of chest, Neurological, Audiogram. Ophthalmologic and General Physical show no evidence to support any one of the physiological suppositions of hyperactivity. Statement made by Dr. Rowe[1] in evaluating the examinations is to the effect that, "The case is obscure, partly through its lack of completeness."

The Psychological examination in the formal testing of the Stanford-Binet is not indicative of causal factors of hyperactivity. But patient's response to situation, showing a dependent attitude, suggests a home environment which might contain significant socio-psychological factors.

Upon examination of the home situation we find an over-protective parent setting too high standards for patient; a nervous tense mother with a tremendous drive to be always "doing things;" an older boy cousin, his constant play-mate, who is obviously too stimulating for him.

During the course of the past year, without any noticeable change in the home situation, patient's behavior pattern shows an almost complete metamorphosis. At home and in school patient appears to be content to just sit and do nothing, apathetic in his attitude. At the clinic and out of doors patient plays happily and with normal activity.

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[1] See Appendix, Case Five.

Without attempting to analyze the possible causes underlying this change in behavior pattern, we might conclude that since there is a difference of response to varying situations, there is validity to the supposition of hyperactivity having a socio-psychological basis. The underlying causes are obscure, probably due to the lack of adequate data.

Case Six: Female — 6 years, 8 months. Intelligence Quotient 111. Italian.

Problems:

Hyperactivity.
Inability to concentrate.
Timid and fearful.
Quarrelsome.
Emotionally unstable.

Social Problems —

Crowded family.
Unwise disciplinary methods.

Manifestations of Hyperativity —

1. "Very 'jumpy'."
2. "Nervous twitchings of arms and hand."
3. "Talk out loud incessantly."
4. "Always running about, never still."
5. "Very restless."

Physical History —

1. Prenatal — Parents in good health.
2. Birth — Full term. Normal delivery. Weight 8 pounds.
3. Development — Breast fed for 12 months. No supplementary feeding. No difficulty in weaning. Normal dentition. Walked at 12 months. Talked at 14 months.
4. Health — Has always been in good health. No convulsions. Had measles at 2 years, not very ill. Because of "nervousness" was examined by doctor, who reported, no physical ailments.
5. Physical appearance — A thin, dark-haired, dark, bright-eyed little girl.

Psychological Examination — Given at clinic February 3, 1931.

Chronological Age 6 years, 9 months. Mental Age 7 years, 6 months. Intelligence Quotient, 111.

1. Response to Situation — Very nervous and apprehensive. Her mother was present during most of examination and she did not seem to know how to co-operate, but interferred repeatedly. Patient was very restless and hands were in almost constant motion.
2. Intellectual Development — Intelligence Quotient 111. Performance tests average somewhat higher.
3. Attention — Rather slow to focus and not well sustained but not bad for her age and emotional state.
4. Motor co-ordination — Fair.
5. Perception — Normal.
6. Lanugage Development — Normal.
7. Memory Span — Normal.
8. *Summary* — A child of more than average intelligence. She evidently has been treated very unwisely and is now in bad emotional condition, but she seemed rather "reasonable" than otherwise.

Personality —

A bright, hyperactive child; quarrelsome, selfish and domineering. Demands a great deal of attention. Timid and fearful; cries on slightest provocation. Enjoys motor activities, especially dancing. Dislikes cats and dogs. Has always been a poor sleeper. Restless in sleep. Dreams and night-terrors. Talks in sleep. Always a poor eater. Great many likes and dislikes. Especially fond of bananas. No evidence of masturbation. Early trained in toilet habits.

Home Situation —

1. Physical set-up. — Family live on third floor of a typical tenement house in the North End. Home consists of six rooms for family of eleven people.

Rooms are dark and poorly ventilated. Adequate play material in home. No play space in neighborhood but the streets.

2. Economic — Family self-supporting.
3. Surrounding Personalities — Father, age 47 years. Born and brought up in Italy. Came to America at 16 years of age. Occupation that of a barber. Is rather quick tempered. Is very fond of family, but enjoys teasing the children. General health good, at present suffering from rheumatic fever.

   Mother 46 years. Born and brought up in the North End in Boston. Attended grammar school. Married at age of 19 years. Has always been in excellent health. Happy and content with her lot in life. Excellent housekeeper. Has quick temper, which is easily aroused but very quickly subsides. Rather ignorant, shows no insight into patient's problems.

   Siblings — There are nine siblings in household, ranging from 26 years to 4 years of age. None of the children have gone beyond the grammar school. Although not bright children, managed to get along in school, so that there were no complaints. At home, they have caused no trouble, being fairly obedient and willing to co-operate. All are in good health.

   Relatives — None in immediate household. History essentially negative.

Relationships in Household —

Apparently mother and father are compatible. Very devoted to home and children, — Mother being the dominant member of household. Siblings all seem to get along very well with one another, with the exception of patient who quarrels with all of them and demands that they give in to her. Does not care to have any member of family show overt expressions of affection towards her. Desires to be left alone. The use of a leather strap has always been method of discipline used by mother. This has been effective with other children but not with patient. Parents now threaten and bribe patient alternately, not carrying out their threats nor keeping their promises.

School Situation —

Patient has attended kindergarten and first grade. At present is in the most advanced division of the second grade. Has always enjoyed school very much. Is exceptionally good in reading, but exceedingly poor on any form of drill work. Is very desirous of approbation and attention. Has been troublesome in school, ever since she started kindergarten, because she insists on talking out loud incessantly and because of crying for no apparent reason. Tears quickly stop when given attention. Does not play well with other children, fights with them. Can not bear to have other children get ahead of her in school work. However has alwyas been well liked by teachers because of good work.

Therapy —

Parental education, especially in regard to matters of discipline and patient's fears. Summer camp was recommended for patient.

Present Status —

No improvement to report. Clinic has been unable to gain mother's co-operation in getting her to control her own temper and in having her realize the importance of being truthful to patient, in order that she can learn to respect mother's authority.

Plans have been made for patient to go away to camp for couple of weeks during summer.

Critique of Case Six

The results of the following examinations: two Basal Metabolisms, Blood Examination (Morphological,) Chemical and Wasserman), Urineanalysis (Routine and Nitrogen Partition), Alveolar CO_2, Vital Capacity, X-ray of chest, Neurological, Audiogram. Ophthalmologic and General Physical indicate no evidence of hyperthyroidism. However there are two or three leads the implications of which must be confirmed or refuted in order to test the validity of physiological basis of hyperactivity. Neurological examination suggests an incipient or past attack of chorea. Eye examination raises a question as to the pupillary reaction. Wasserman is reported weakly positive, Kahn presumptive and Hinton negative. Dr. Rowe[1] expresses the following opinions: "There may be an endocrine condition here, probably is, but the serological suggestion must be followed up first."

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[1] See Appendix, Case Six.

Upon examination of the social situation, we find the following socio-psychologica factors having a possible causal relationship to hyperactivity; crowded family, which suggests over-stimulation; inconsistent disciplinary methods, which implies a sense of insecurity; many fears on part of patient, implying insecurity; the causes for these fears are undetermined, owing to lack of data and insight.

In this particular case, we are unable to find sufficient evidence to establish the validity of any one theory of hyperactivity.

The present data suggests the possibility that there is an interaction of physiological and socio-psychological factors causing the hyperactivity.

Case Seven: — Male — 3 years, 9 months, Intelligence Quotient 91, American.

Problems —

Hyperactivity.
Delayed speech development.
Unsatisfactory Social adjustment.
Disobedience.

Social Problems —

Broken home.
Compound family.
Marital difficulties.
Inconsistent discipline.

Manifestations of Hyperactivity —

1. "Very active, will not relax."
2. "Destructive."
3. "Over-stimulated."
4. "Difficult to control."
5. "Inability to concentrate."
6. "Many random movements."

Physical History —

1. Prenatal — Mother 36 years old. Father 26 years old at time of conception. Both well during pregnancy.
2. Birth — Premature (7½ months). One of twins. (Girl died at 3 months of acidosis). Weight 3 pounds, 8 ounces.
3. Development — Fed on commercial breast milk and then put on formula. Feeding difficulties for about one year. Dentition at 11 months. Walked at 19 months. Did not talk until over three years of age, then only three or four words.
4. Health — No convulsions, seldom ill. General physical condition good. Has had rickets. Tonsils and adenoids removed.
5. Physical Appearance — Well developed and nourished. Fair-haired, blue-eyed, regular features.

Psychological Examination — Given at clinic April 1, 1930. Mental Age undetermined because of poor co-operation received from the child.

Retest given April 14, 1931.

Chronological Age, 4 years, 11 months. Mental age 4 years, 6 months. Intelligence Quotient 91.

1. Response to Situation — Co-operative. Concentration has improved. Responds well under supervision.
2. Intellectual Development — Basal year 3 and passed alternative in the 6th year. Performance tests good. Average and median 5 to 5½ years, with a scattering from 4th to 6th years.
3. Attention — Fair.
4. Motor-coordination — Retarded in doing of motor things requiring the finer muscles. Failed the drawing of the square in the 4th year.
5. Perception — Normal.
6. Language Development — Speech still retarded but great improvement since former test.
7. Memory Span — Good.
8. *Summary* — Patient appears to be developing very well. Improvement in language will probably also help things in which he is at present little retarded.

Personality —

A hyperactive child, with destructive tendencies. Fond of teasing and annoying both adults and children. Very affectionate. Easily distracted, does very little constructive work or play. Always been considered a "whiner". Enjoys motor activities. Favorite toy a tricycle. Sleeps well. Eating habits poor. Is urged to eat and is often fed as he is very slow about feeding himself.

Has good toilet habits, but was difficult to train, not being well trained until he was about three years old. No evidence of masturbation, thumbsucking or any nervous habit.

Home Situation —

1. Physical — Family live in rooms in the basement of boarding-house run by mother. Patient and younger sister share bedroom with mother. There is a yard in back of house and park nearby in which patient is allowed to play. Patient has always lived here except his second summer, which he spent in Wilmington with a friend of his mother. Play material in home consists mostly of cheap, inadequate toys, easily destroyed.
2. Economic — Self-supporting. Father a salesman. Mother runs a boarding-house.
3. Surrounding Personalities — *Father* 30 years old. Born near Warsaw, Poland, came to this country when a child. He is a salesman. Good health. Large man, makes good appearance. Is a glib talker. Unsteady worker, as soon as he has made a little money loafs for a while. Excitable sort of person, laughs and talks loudly and quickly changes to irritable, angry mood. Inclined to be a "bully."

   Mother — 40 years old. Born in New Hampshire. Unhappy childhood. Friction between maternal grandmother and maternal grandfather who deserted home and was not heard of for many years. Did clerical work part time and ran boarding-house before marriage. Always active and energetic until recently, now fatigues easily. Is on diet, to reduce weight. Attractive and neat in appearance. Shows a good deal of nervous excitability.

   Siblings — Sister born October 1927. A quiet, well-behaved little girl. Wears glasses to correct strabismus. Recently had convulsion, cause unknown.

   Maternal grandfather — Living in home. Helps mother with housework. Interested in children. Takes them to and from school. At times presents rather peculiar behavior, which might denote some mental disorder.

   Paternal relatives — Interested in children. Desire to have little girl come and live with them. Had patient and sister with them for a visit, unable to cope with patient so returned both children home. Polish spoken in their home.

Relationships in Household —

Mother and father have had considerable marital difficulty. Father and maternal grandfather did not get along well, quarreled over financial situation. Mother and maternal grandfather apparently get along fairly well. Mother believes maternal grandfather is worth considerable money, but will never offer to help her out financially. Father has deserted family, but occasionally comes to see children and pays mother $60. a month for their support. Mother in poor mental state because of marital situation. Appears irrational at times. Mother has no control over patient. Minimizes his problems. Admits sister is favorite with all the family. When father was in home he was very severe with patient, expected instant obedience from him, and if not received would immediately punish him, generally by beating him. Patient always responds in the negative, when asked if he is fond of his father. Mother does not even attempt to discipline patient. Maid in household has more control over patient than have parents. Patient shows genuine affection for maid and for sister. Children are largely left in care of maid, mother has little to do with their care.

School Situation —

Patient entered Ruggles Street Nursery School in October, 1929, at the age of 3 years, 4 months. Attended regularly for school year, being out for short time during spring, when tonsils were removed. Appeared to enjoy and to be watching for opportunities to annoy and frighten other children. Destructive with school material. Likes to play the victrola, and has shown some interest in music at school. Often sings to himself. It is felt he is over-stimulated by group and in turn over-stimulating to group. Patient enjoys going to school. During school year, patient showed some improvement in behavior. During later part of year, was given a great deal of individual attention by one of most experienced nursery school teachers. Patient responded to her and could be managed by her, but he did not carry this over under someone else's supervision.

Last fall, patient entered Miss Hidden's nursery school. During year he has presented very much the same type of behavior as he did previous year. Hyperactive, destructive, unable to concentrate and lacks creativeness. Does not get along well with group. Past few months has shown some improvement in school work; seems to take great pleasure and delight in doing such kindergarten work as molding, weaving, etc.

Therapy —

Co-operation with nursery school in handling patient. Parental education on Mental Hygiene level, especially along lines of constructive methods of discipline, teaching patient to care for himself, and to try and create situations in which patient may have satisfaction of doing things in a sociably acceptable manner.

Patient to be sent to kindergarten next year.
Patient to be sent to farm for summer.
Speech exercises at clinic.

Present Status —

Patient's general behavior slightly improved. Mother still has great difficulty in managing him. Patient largely in care of the maid. When mother appears on scene, children demand to be waited on and there is a great deal of confusion. Seldom sees father. Mother has shown interest in clinic recommendations, but has failed to co-operate in carrying out treatment in the home.

CRITIQUE OF CASE SEVEN.

The results of the following examinations: two Basal Metabolisms, Blood Examination (Morphological), Urineanalysis (Routine and Nitrogen Partition), Alveolar CO_2, Vital Capacity, X-ray of chest, and General Physical, indicate that there are no evidences of hyperthyroidism or malnutrition. Dr. Rowe[1] in his evaluation of these examinations made the following statement: "There are suggestions of an endocrinopathy, although it may be secondary to some non-endocrine disturbance."

Upon examination of the social situation we find an erratic, excitable and irritable father; a mother, who shows a great deal of nervous excitability; marital discord which resulted in desertion by the father; a compound family; maternal grandfather in friction with father; poor training; inconsistent discipline; and parental rejection of patient.

There is plenty of evidence in this case that justifies the belief that patient's hyperactivity is a symptomatic behavior response motivated by a tremendous sense of insecurity.

Case Eight: Male — 4 years. Intelligence Quotient 112. Jewish.

Problems —

Hyperactivity.
Poor eating habits.
Poor sleeping habits.

Social Problems —

Only child.
Over-solicituos mother.

Manifestations of Hyperactivity —

1. "Talks in excited manner."
2. "Very distractible."
3. "Body motions all very quick and in constant activity."
4. "Restless."
5. "Inability to concentrate".

Physical History —

1. Prenatal — Parents well. Mother age 24.
2. Birth — Full term, normal delivery.
3. Development — Breast fed for month. Did not gain well. Put on formula. Difficult to wean. Bottle until over two years of age. Talked at 9 months. Walked at 11 months.

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[1] See Appendix, Case Seven.

4. Health — Few illnesses. Light attack of measles and whooping cough at 3 years of age. Difficult to manage following illnesses. Given para-thyroid pills. Slight improvement. Examination by family doctor January, 1931, just prior to coming to clinic, reported to be in good physical condition. Tall for age and a little thin.
5. Physical Appearance — Fair curly hair, blue eyes, good features. Attitude of alertness.

Psychological Examination — Given at clinic February 14, 1931.

Chronological Age 4 years. Mental Age 4 years, 6 months. Intelligence Quotient 112.

1. Responses— A little chap who is very much at home wherever he is. Left-handed. Loquacious. Enunciates clearly.
2. Intellectual Development — Basal year 4 and passed one item in 6th year. Perfect test average in medium 4 years.
3. Learning Capacity — Good.
4. Attention — Fair. Inclined to be somewhat fidgety because of wanting to see everything that is going on.
5. Psycho-motor Control — Left-handed but good motor co-ordination.
6. Language Development — No speech troubles. Enunciates very clearly and uses language well.
7. Reasoning and Judgment — Fair. Somewhat slow in getting directions. Quality of work fair.
8. Memory — Good rote memory, in fact, one of his best assets.
9. Social Adjustment — Good.
10. *Summary* — A boy with a normal intelligence. Because of his alertness, he gives the impression of being a brighter child than he is.

Personality —

A bright hyperactive child. Very sociable. Enjoys and demands a great deal of attention. Easily distracted. Enjoys stories. Gets along well with other children. Early trained in toilet habits. Has poor sleeping habits. Uses many devices of an attention-getting nature. Has poor eating habits. Fed by mother. Very finicky about food, even when catered to. No history of other undesirable habits.

Home Situation —

1. Physical — Family live in Jewish neighborhood, mostly all apartment houses. Live on 2d floor of a 3-family brick apartment house, modern and well-equipped. Rooms are light and attractively furnished.
2. Economic — Father is a salesman for Spring Bed Company. Income is comfortable.
3. Surrounding Personalities — Father. Born in New York City. Enjoys work and environment. Calm and placid person, easy-going.

   Mother — age 28 years. Born in New York City. The oldest of 6 children. Always a sensitive child, cried easily. After finishing school, became a diamond buyer. When she married, gave up work and came to Boston to live. Was miserably unhappy at first, and went back to her family every few weeks. Always been a close relationship among the members of her family. She has gradually made a satisfactory social adjustment to present situation. Has been in fairly good physical health. Had attack of gall-stones at birth of patient. Is extremely high-strung and nervous.

   Maternal Relatives — Maternal grandparents and two unmarried maternal uncles living in suburbs of New York. One maternal uncle, married, also lives in New York.

Relationships in Household —

Mother and father appear to be quite compatible. Patient demands great deal of attention from both mother and maid. Mother's attitude especially inconsistent in handling patient. Will be over-indulgent for a period and then when patient's conduct becomes too irritable, she loses her temper and refuses to show any kindness or affection to patient. Patient is very demanding with maid who generally caters to his every whim.

Training — Mother's training of patient has been inconsistent. Will be over-strict with patient for a short time and then leave off training entirely. Discipline usually follows a wrangle between patient and mother, punishment coming at a time when mother no longer can control herself.

Therapy —

Has mainly consisted in educating parents in parental education on mental hygiene level. Consistent management has been stressed. Mother co-operated very well during therapy. A new maid came into household for whom patient has formed quite an attachment.

Present Status —

At present time patient has shown marked improvement in feeding problems, eats well and feeds himself. A good sleeping regime has been established. Patient is more obedient as mother is more consistent in her demands. He still shows manifestations of hyperactivity but to a lesser degree than formerly. Mother is still having help from psychiatrist.

CRITIQUE OF CASE EIGHT.

The results of the following examinations: two Basal Metabolisms, Blood Examination (Morphological), Urineanalysis (Routine and Nitrogen Partition), Alveolar CO_2, Vital Capacity Neurological, X-ray of chest, Audiogram. Ophthalmologic, and General Physical, show no indications of physiological etiology of hyperactivity. Dr. Rowe[1] in evaluating these results expresses the following opinion: "There is nothing here to really incriminate the endocrine system, and with the success that has attended the effort to improve his feeding and sleeping problems by educational methods, I cannot but wonder if the boy's problem is not of social rather than of physical origin."

Upon examination of the social situation we find evidence to confirm the theory of the socio-psychological basis of hyperactivity. Contributory factors are: poor eating and sleeping habits and a mother extremely high-strung and nervous, who is inconsistent in her training and discipline of patient.

To test the validity of the supposition, we find now, that better habits of eating and sleeping are established, the mother is more controlled and consistent and there is much less emotional tension in the home, and with this change there is a marked improvement in patient's behavior with less evidence of hyperactivity.

Table Showing Physical and Socio-Psychological Factors as Found in the Eight Cases.

PHYSICAL FACTORS.	CASES.							
	One	Two	Three	Four	Five	Six	Seven	Eight
Positive Conditions:								
Hyper-thyroidism	.....	.....	.....	.....	.....	.....	.....	.....
Eye-strain	.....	.....	.....	.....	.....	.....	.....	.....
Fatigue	.....	.....	.....	.....	.....	.....	.....	.....
Slight Malnutrition	x	x	x	.....	.....	x	.....	.....
Possible Conditions:								
Incipient Chorea	.....	x	.....	.....	.....	x	.....	.....
Slight Central Nervous System Irritation	x	.....	.....	.....	.....	.....	.....	.....
Syphilitic Condition	.....	.....	.....	.....	.....	x	.....	.....
Endocrine Disturbance	x	.....	x	.....	.....	x	x	.....
Socio-Psychological Factors:								
Emotional Instability of Parents	x	x	x	x	x	.....	x	x
Inconsistent Discipline	x	x	x	x	.....	x	x	x
Rejection	x	x	x	x	.....	.....	x	.....
Over-protection	.....	.....	.....	x	x	.....	.....	.....
Over-stimulation	.....	.....	.....	.....	.....	x	.....	.....
Friction in Family	.....	x	x	x	.....	.....	x	.....
Marital Discord	.....	x	x	.....	.....	.....	x	.....
Poor training	x	.....	x	.....	.....	.....	x	x

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[1] See Appendix, Case Eight.

IV. CONCLUSIONS.

In the investigation of the social situation for socio-psychological factors having significance in a causal relationship to hyperactivity, several important factors were brought out. In three cases we found psychiatric problems, that indicated feelings of guilt, but as these problems are the symptomatic response to an insecure environment, we do not believe them to be primal factors in relation to causality of hyperactivity.

The table on page 58 shows the distribution of the more outstanding physical and socio-psychological factors as found in the eight cases. In none of the cases are there indications of hyperthyroidism, eye-strain, or fatigue, which are three of the current suppositions as to the physiological origin of hyperactivity. The predominance of socio-psychological factors over physical factors can readily be seen.

There is an unquestionable concentration of these socio-psychological factors in three of the undesirable parental attitudes contributing to feelings of insecurity, namely, emotional instability of parents, inconsistent discipline, and rejection. In Cases One, Two, Three, Four and Seven all three of these particular attitudes are found in each case. In Case One there is also one positive and two possible physical findings; in Cases Two and Three there is one positive and one possible physical finding; in Case Seven there is but one possible physical finding; and in Case Four there are no physical findings. In Case Eight there are two of these three most predominant undesirable attitudes, with no physical findings; and in Case Five, one of these attitudes with no physical findings. Case Six shows one of these three predominant parental attitudes with one positive and three possible physical findings.

Since Cases Four, Five and Eight have no physical findings, and Case Seven has but one possible physical finding, it would seem that the causal factors of hyperactivity in these cases must be socio-psychological. Cases One, Two, and Three show one positive physical finding, a slight malnutrition in each case, and one or two possible physical findings. The indications of these conditions, if proven to exist, might bear some causal relationship to hyperactivity, but here we can merely speculate; for warrantable proof does not exist to justify a more definite interpretation.

In half of the cases, two of rejection and two of over-protection, in which there was a modification of these parental attitudes, we found a corresponding modification in the number and intensity of the manifestations of hyperactivity. In three cases in which parental attitudes remained unchanged and maladjustments in the home situation unaltered, we found that the manifestations of hyperactivity remained fairly constant. In one case in which there was no apparent change in parental attitudes or a change of social environment, we found a reversal in the patient's behavior pattern from hyperactivity to apathy.

In any final evaluation of this material, the fact must be borne in mind that the small number of cases in this study prohibits drawing conclusions as to the origin of hyperactivity in general. We conclude merely, that the origin of hyperactivity in these eight cases bears more than a chance relationship to the *lack* of physical factors and to the predominance of socio-psychological factors.

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GEORGE M. KLINE, M. D.
DOUGLAS A. THOM, M. D.

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FOREWORD

This issue of the Bulletin is devoted to contributions which have come from the pathological laboratories of the Massachusetts state hospitals and indicates a very healthy state of affairs with reference to the research activities that are being carried on by the Department of Mental Diseases.

At this time when so much interest is being manifested in the clinical approach to the varied problems surrounding mental illness, many have lost sight of the fact that it is from the pathological and biochemical laboratories that the most important advances have been made in the field of medicine. The clinical and laboratory approaches to a better understanding of the varied factors leading to poor mental health are in no way antagonistic one to the other and should not be so considered. Rather, does one supplement the needs of the other and it is only by keeping the clinician, the pathologist, and the chemist all working hand in hand that we may expect to achieve results that will eventually lead to a better understanding of the varied processes underlying poor mental health.

The Editors.

THE DETECTION OF ANTIMONY IN THE SPINAL FLUID FROM A PATIENT DYING TWENTY HOURS AFTER THE INGESTION WITH SUICIDAL INTENT OF ANTIMONY BUTTER.

(Antimony Trichloride)

Myrtelle M. Canavan, M. D.
Assistant Pathologist, Department of Mental Diseases

Three times in as many years H.F.H., Northampton State Hospital No. 19582, a white married man of 35, World War veteran, exhibited for a few days a deviation from his normal mental state. No relatives are known to have had any depressions. The first time, August 1930, the patient had a mental upset was after a slight accident in which he fell about eight feet from a staging and he was very much excited for a few days pacing the floor and not eating, expressing the ideas that his relatives were trying to get his money away from him. These ideas disappeared and he was perfectly well and continued his work as cabinet worker.

The second time was in November 1931, when he again had spontaneously a few days of apprehension, and this state subsided and he became himself again. On March 25, 1932 he began not to sleep, thought some one was trying to get his position away from him, walked the floor, but continued his work. No alcohol was taken at this period though he did now and then take it in some form, usually Saturday nights.

While at work on March 29, four days after the onset of this mental upset, he drank paint remover in the shop, estimated 40 cc. in amount, which contained antimony butter (trichloride). A nearby workman assisted him to drink milk and he was sent to the local hospital within half an hour and had his stomach washed out. He also received subcutaneous fluids and rectal taps and morphine for pain. Early in the afternoon, as he became rambling in his conversation, this hospital had him transferred to the nearby State Hospital, Northampton, where he was received in a condition like shock, cold clammy skin, pulse weak, rate 130, blood pressure 88/44, perhaps due to vomiting. His pupils did not react — thought to have been contracted by morphine, and while he was conscious, he was irrational. He complained of pain in throat and stomach, and died the next morning about 20 hours after the ingestion of the poison.

In the capacity of Investigator of Sudden or Unexpected Deaths in the State Hospitals, I saw this patient eight hours after death: Autopsy permission had not been given by the family so only one procedure was left to give any clue to the effect of the poison on the nervous system or to determine the existence of previous disease, this was postmortem lumbar puncture, which was done by Dr. Crossfield, and water clear fluid obtained. The examinations made by the clinical laboratory staff at the Psychopathic Hospital gave negative results, the cells being four in number all lymphocytes, the gold sol was negative, the globulin test gave a cloudy ring but was considered meaningless, the total protein 41 milligrams percent and sugar 61 milligrams percent were within normal limits, so that if absorbed, antimony caused no reaction in the spinal meninges, in the 20 hours he lived. To determine the presence of the metal Dr. Wm. F. Boos was asked to examine the fluid chemically, which he did and reported the *presence of .0000025 of a gram of antimony in the 6 cc. of fluid submitted.*

In a review of published articles since 1881 no reports of finding of antimony in the spinal fluid has been made.

CONCLUSIONS

1. When patients commit suicide, one should make great effort to recover and identify the morbid agent.
2. It is striking that no pathological changes were caused in the cerbrospinal pathway of antimony as shown by negative results in the spinal fluid examination.
3. One more poision, antimony, can be detected by examination of the spinal fluid.

A CASE OF URAEMIC INTOXICATION

VICENTE A. NAVARRO, M.D.,
Senior Physician (Pathologist), Medfield State Hospital

A white married woman, (Medfield No. 6924), aged 62, was admitted to the Boston State Hospital August 17, 1931 on a Ten Day Temporary Care paper, and on August 25, 1931 regularly committed to the Medfield State Hospital. Her physical condition from the time of admission was regarded as serious.

Antecedents: The patient's father was born in New York and died at the age of sixty-seven of pneumonia. Her mother was born in New York and is living and well at the age of eighty-three. The patient had four sisters three of whom died of diphtheria when very young. The fourth committed suicide six years ago by shooting herself. There is no history of other cases of nervous or mental trouble in the family.

Medical history: She had all the children's diseases; pneumonia some years ago; and frequent bilious attacks. About two years ago she fell on the road and sustained minor scalp injuries. Since then she has been healthy and active until the present illness, and cared for her aged mother while her daughter worked. The informant told the examining physician at the Boston State Hospital that the patient had a severe case of uremic poisoning when her daughter, the informant, was born and she was confined at the Marshall Sanatorium in Troy, New York, for seven weeks.

Habits: The patient used no tobacco, alcohol, or drugs. Her moral habits were examplary.

Personality: She had an even disposition and was quiet, charming and had many friends. She was a follower rather than a leader, and rather dependent on others to make decisions for her. She loved movies and church activities. She was very domestic, and when not otherwise employed, kept house for her mother and daughter.

Marital history: At the age of twenty-three she was married to a salesman; married life was congenial. They had one child. Her husband died fifteen years ago of pneumonia.

Personal history: The patient was born in Cambridge, New York, sixty-two years ago. Her early development was normal and she went through the third year of high school and was intelligent about her work. She had a severe case of uremic poisoning when her daughter, the informant, was born. She was a telephone operator when young, and recently worked as a saleswoman in Filene's. She had an attack of mental disorder following the uremic poisoning when her daughter was born thirty-two years ago, the duration of which was seven weeks. The informant said that the patient had a nervous breakdown every year about the time of informant's birthday, and the patient became depressed during these periods.

Present illness: The informant placed the onset as one year ago, but said that the patient had been worse since June, 1931, or about three months before her death. She began to have trouble in collecting her thoughts and completing statements and acts. Her memory, which had always been good, began to fail, and she had difficulty in remembering names and details which she knew very well. These symptoms were progressive during the three weeks before going to the Boston State Hospital. She heard voices and bells, she would call her daughter's attention to friends on the street when there was no one there; she thought that there was a war going on, and the city was without protection and nothing was safe. She sometimes became slightly confused over the date, but showed no tendency to misplace things. Towards the end she was restless at night unless she took medicine. Her appetite was always good, but in two years her weight went down from 170 pounds to 127 pounds. Her attitude towards her daughter did not change, and she did not complain of persecution. Her daughter finally consulted a doctor who advised examination in a hospital. She was admitted to the Boston State Hospital August 17, 1931, and on August 25, 1931 was committed to the Medfield State Hospital.

The physical examination at the Boston State Hospital on August 17, 1931 showed the following: Pupillary reaction was normal. Arcus senilis was present. She had small varicosities of both lower extremities and a fine tremor of tongue. Organic reflexes were under control. Lungs were essentially negative. Heart showed sounds partly muffled; first sound was very soft; P-2 greater than A-2. Pulse was regular, of good quality and volume; rate 78. Radials were sclerosed. Blood pressure — 150/100. Abdomen was essentially negative.

At the Medfield State Hospital on August 26, 1931, physical examination showed a well developed, well nourished female, lying quietly in bed appearing fairly comfortable, but ill. Skin over entire body was of a yellowish hue. Lungs showed moderate resonance throughout. Heart borders were within normal limits. Valvular areas showed pulmonic sounds increased, aortic sound distant with an inconstant diastolic murmur not transmitted. Broncho-vesicular breathing, high pitched rales, and fine crackles were heard. Blood pressure — 98/58. Abdomen was soft and pendulous. Senile keratitis was present. Abdominal aorta was easily palpable. There was tenderness and a question of a mass above the symphysis pubis. Kidneys, liver, and spleen were not palpable. Upper abdomen above umbilicus showed a hard palpable mass, lying deep and unattached to skin or to the superficial layers of fat. This was not moveable. There was no spasm or tenderness noted.

Mental Diagnosis: Psychoses with other Somatic Disease — Uremia.

Progress Notes: The patient was considered in a serious physical condition after her admission to this hospital, showed few rales and broncho-vesicular breathing and became very much exhausted after routine physical examination. Urinary examination from the first day of admission revealed acute nephritic findings and those of cystitis. N. P. N. on the eighth day was 68.5 mg. per 100 c.c. of blood. On the third day she presented marked distension of the lower abdomen and was catheterized, obtaining 48 ounces of pussy urine. Since then she was catheterized two or three times daily. This proceedure at times was extremely difficult as thick shreds came with the urinary discharge and necessitated changing of catheter. From the tenth day she began to pass bloody urine. Since the sixth day she received subpectoral infusions as it was difficult to persuade her to take sufficient fluid. Blood count and differential was essentially negative until the eleventh day when the white count went up to 30,000 and as high as 47,000 on the fourteenth day, or the day before her death. An examination of the chest showed physical signs attributed to broncho-pneumonia. She died on September 10, 1931.

AUTOPSY FINDINGS (15 hours after death)

1. Chronic cystitis.
2. Dilated urinary bladder; ureters, kidney pelvis, and calices filled with urine.
3. Cholelithiasis, with perihepatic adhesions, involving the head of the pancreas.
4. Old tuberculous lesion at left apex.
5. Bronchopneumonia; early stages.
6. Pericarditis.
7. Heart small, soft and flabby.
8. Endocarditis; aortic valve.
9. Early general arteriosclerosis.
10. Small fibroid tumor of the uterus.
11. Edema of brain and meninges; vessels congested; ventricles moderately enlarged.

Bladder was distended and filled with thick pussy urine; the wall was very much hypertrophied and leather like. The surface showed rough concentric dull grayish ridges, arranged mostly transversely, and the intervening mucosa was very much injected and dotted with pin point hemorrhagic areas. Under the microscope, extensive fibrosis was noted throughout all the layers of the wall with a marked inflammatory process which was most abundant in the submucosa. The fibres of the muscular coat were separated by enormous amounts of connective tissue. In the region of the hypertrophied ridges, above mentioned, a very much thickened mucosa was revealed, but it was necrotic, and had lost the identity of its epithelial character. Most of the surface was even devoid of mucosa. There was an abundant extravasation of blood in the submucosa.

Ureters: Both ureters were distended to a size as large as 1¾ cm. in diameter. Pelvis and calices of both kidneys were moderately distended. Both ureters, pelvis and calices were filled with urine clearer than that noted in the bladder.

Kidneys: The tubules were dilated with flattened epithelial lining, while the glomeruli were slightly oblitereated and pushed towards the middle with a wide space filled with urine intervening between them and the epithelial lining. There was some destruction of the epithelial lining of the tubules.

Liver: Showed fatty infiltration.

Lungs: A section from the middle lobe of the right lung showed peri-bronchial infiltration, some with red cells, others with white cells.

Brain: Showed chromatolysis of nerve cells and sclerosed vessels in areas examined.

It is reasonably assumed that the patient had recurrent attacks of depression for a number of years, and as part of her symptoms she had several episodes of urinary retention and that the chronic inflammation of the bladder was superimposed and came only after injury, such as diminished resistance of bladder mucosa after repeated retentions causing dilatation of the bladder.

Ordinarily the immunity of the normal bladder to direct infection is quite remarkable. Pyogenic bacteria introduced in large numbers rapidly disappear without producing any inflammation. As Boyd says, "There is no such disease as cystitis. The real disease must be sought elsewhere, the cystitis being merely a complication which, on account of its obvious nature, forces itself upon the attention of the patient or surgeon."

These remarks, however, apply only to the healthy bladder. A bladder already weakened by injury or disease is as vulnerable to infection as any other organ. The most important of these predisposing causes are injury and retention.

Retention may be due to stricture of the urethra, enlargement of the prostate in males, carcinoma, or paralysis of the bladder in tabes, injury to the spinal cord, and frequently mental disorder, especially with a depression. The retained urine undergoes decomposition and produces so much irritation of the bladder wall, in addition to providing an ideal culture medium, that infection is certain to occur if bacteria are present.

The mode of infection in this case was direct through the presence of pathogenic bacteria in the retained, disintegrated urine. Ordinarily infection may reach the bladder from the urethra, from the kidney, or by extension from neighboring organs. Retention, in like manner, was the cause in this case of the pathological findings shown in the ureters, pelvis, and kidneys.

Summary and Conclusion

1. In the case under discussion repeated attacks of mental disturbance brought about retention, probably at first negligible causing no untoward symptoms, but becoming worse with succeeding attacks.
2. The mechanical injury of the mucosa of the bladder resulting from the dilatation, together with the damage through chemical irritation brought about by the decomposed urine, rendered the bladder permeable to infection and a fertile culture medium for pathogenic bacteria although this organ is normally highly resistant to the common pathogenic bacteria.
3. Infection of the bladder readily extended downward, and with urethritis and cystitis super-imposed upon the patient's already deranged mental processes, one can readily understand how easily a more serious retention was established.
4. Under proper medical care in the early stages the cystitis with its subsequent serious sequelae could have been prevented. This, unfortunately, was neglected before the patient was admitted here. Catheterization was handicapped by the patient's uncooperative attitude and retention catheter was altogether impracticable, due to thick shreds coming with residual urine, which persistently plugged up the lumen of a catheter.
5. I believe this case of uremia was of an obstructive type, presenting symptoms of drowsiness, weakness of heart action, and syncope without manifesting the convulsions and other manifestations of nervous irritation characteristic of uremia in chronic nephritis. Unfortunately, there is no adequate record of the patient's confinement thirty-six years ago, complicating childbirth, but if there were a case of nephritis, it certainly must have cleared up years prior to the serious illness, as all the pathology found in the kindeys at autopsy was that brought about by the mechanical damming back of the urine. I am more inclined to believe that the attack thrity-two years ago and subsequent attacks every fall suggest a mental disturbance.
6. The type of poison responsible for uremic intoxication is as yet in the dark. It is assumed that the main substances responsible are antecendents of urea, but as yet of unknown nature. Others speak of certain internal secretion of the kidneys, about which nobody knows very much, while there are still others who present as an important factor, the changes in osmotic pressure in the blood and tissue fluids. We cannot entirely dismiss the oedema of the brain and meninges which is associated with this hypertonicity as possible factors in the production of uremia, and further, clinicians have repeatedly noted a favorable effect from spinal puncture in uremia, following the escape of a fluid under apparently abnormally high pressure.
7. The high temperature, with high white count, accompanied by a corresponding rise in pulse and respiration towards the end, were due to a terminal bronchopneumonia.

PRIMARY INTESTINAL TUBERCULOSIS AND ACUTE OBSTRUCTION

A CASE REPORT

H. W. Williams, M.D.
Pathologist, Taunton State Hospital, Taunton, Mass.

Mental patients at times illustrate variations of pathological processes that would not be seen in other groups. The apathy of some toward their bodies makes this theoretically so. It was probably because of this indifference that the pathological condition to be here discussed developed. The patient had primary intestinal tuberculosis of the ulcerative type. An acute intestinal obstruction occurred in the sigmoid at the site of one of these ulcers.

REPORT OF CASE

N. T. was born in Massachusetts in 1862. There is nothing significant given in the history about his early youth. He left school at 18. After four years of employment as a clerk in a grocery store, he opened a livery stable. This venture was not successful. Following this, he was usually employed caring for horses. At about 30, he began drinking heavily. This would be done during sprees of three or four weeks duration. While in his thirties he had some sort of undescribed mental upset. He was treated at home and attended by a nurse. Some time at the beginning of the year 1906, he suddenly stopped using liquor because he thought he was doing wrong. He became seclusive, refused to eat, and was very difficult to care for. For these reasons he was committed to the Westborough State Hospital. He was hallucinated in the auditory field, indifferent, and concerned greatly with his wrong doing. Fifteen months later he was discharged in the care of his father. There was no change in the mental status. For the years between his discharge from Westborough and 1912, there is no record. In 1912 he began living alone in a small house. Because of his childish ways, and his uncontrollable acts, he was committed to the Taunton State Hospital in November of 1916. A diagnosis of Alcoholic Psychosis, Chronic Hallucinosis was made. For some sixteen years, he resided at this hospital. Mental deterioration was gradual. Hallucinations could not be elicited at all times. Several times he remarked he was contented to stay in this hospital. He became increasingly seclusive, less communicative, and never would complain about himself or his surroundings.

His physical examination on admission was negative. From 1926 on, there are annual physical examinations recorded. They are all essentially negative. No complaints referable to the respiratory or gastro-intestinal tract were ever elicited.

On the 22nd of January 1932, after supper, an attendant noticed the patient was weak, less interested in his surroundings than usual, that he had a markedly distended abdomen. The physician called was unable to elicit any complaints. It could not be learned when the patient had his last bowel movement. He looked very sick. There was no vomiting. The temperature was 101. The abdomen was distended and tense, but not "board-like". Within a space of 2½ hours four different enemas were given without fecal return. A consulting surgeon was called. He made a diagnosis of acute intestinal obstruction. Four hours after the state of the abdomen was noted, a colostomy, all that was permitted because of the patient's condition, was hastily done. The anesthetic recovery was poor. The temperature climbed to 103. Death came within 24 hours.

AUTOPSY: GROSS EXAMINATION

The necropsy was started 1½ hours post mortem while the body was still warm and rigor mortis had not set in. It was the body of a rather poorly nourished and poorly developed white aged male adult. There was a slight tendency toward a "pigeon breast". The ribs were moderately flared at the costal margin. The anterior posterior diameter of the thorax was increased. The abdomen was markedly distended. A glass tube was present in the recent unhealed midline surgical incision. It contained soft fecal material.

In the peritoneal cavity was an acute inflammatory reaction tending somewhat to be localized in the lower half of the abdomen. The peritoneal surfaces were congested and covered with a fibrinous exudate that plastered the loops of bowels together. There was some 200 cc. of a free, dark amber, turbid fluid.

The right pleural cavity was free from fluid and adhesions. Over the lateral surface of the posterior lobe of the left lung, were a few rather easily broken, fibrous adhesions. The apex was free. There was no fluid.

In the large pericardial cavity was some 250 cc. of a clear, straw colored fluid. The pericardial surfaces were smooth and glistening.

The heart, in contrast to the size of the pericardial sac, was a flabby atrophic organ, weighing about 300 grams. The coronary arteries were very tortuous. However, atheromatous plaques were limited to the neighborhood of the origin of the arteries where they produced little impairment of the lumen. There were no emboli or thrombi. The myocardium in the left ventricle had a thickness of only 1 cm. There was a suggestion of a fatty change in section.

When the pleural cavities were opened, the lungs collapsed so that they occupied not over one-half of their respective cavities. Both lungs weighed 400 grams. In the central portion of the lower lobe of the right lung, there was found an early bronchopneumonic area not exceeding 3 cm. in any diameter. Apart from this and the emphysema, the lungs were entirely normal. Both apices were free from gross evidence of active or healed tuberculous lesions. The small nodes at the hilus of both lungs were jet black. There was no tuberculosis.

The spleen, which weighed 80 grams, was without significance whatsoever.

In the stomach was some 300 cc. of a dark brown, watery fluid in which there were no solid particles. High in the small intestine, where the mucosal folds were still numerous, estimated to be some 8 to 10 feet from the caecum, was found an annular ulcer, completely encircling the lumen. The long axis of the ulcer was transverse to the long axis of the gut. It had a uniform width of 2 cm. The floor was rough, granular, and of a reddish brown color. No tubercles or dilated lymph channels were demonstrable on the peritoneal surface underlying the ulcer. There was diffuse congestion of the mucous membrane of the terminal portion of the ileum. In the lumen, in this portion, were small, hard, rounded fecal masses. The caecum was dilated to a diamter of 10 cm. by a semi-solid mass of feces. There was congestion of the mucous membrane, but no lesions were present. The transverse colon was slightly dilated, and filled with a more fluid content than the caecum. In the descending colon, at a point about 8 cm. from the splenic flexure, was found another ulcer very similar to that just described. It encircled but one-half of the lumen, and had an average width of 2½ cm. The ulcer edges were more prominent and elevated. Its long axis was also transverse to that of the gut.

The sigmoid was a large loop that turned superiorly at the brim of the pelvis to reach above the umbilicus, and extend to the caecum on the right side. It gradually dilated to reach a maximum diameter of 10 cm. At about this point, was the site of the colostomy. The lumen was filled with liquid, foamy fecal material. The mucous membrane was diffusely congested, but not otherwise remarkable. The hypertrophied muscle coat reached a thickness of 4 mm. proximal to the obstructed portion.

As the sigmoid passed over the sacrum, it diminished abruptly in diameter. At the top of the sacrum, there was what appeared to be a tuck in the anterior wall of the bowel. The peritoneal surface over this area showed a number of small, punctuate hemorrhages, but no gross tubercles. The lumen opposite this tuck, would barely admit the index finger. At the constriction, was located an extensive ulcer. Essentially similar to the ulcers already described, it encircled about three fourths of the lumen, had elevated undermined edges, and a rough granular floor to which was loosely attached a yellow, necrotic membrane. Up to this constriction, the large bowel was filled with feces. Beyond it, the lumen was essentially empty. It was assumed, since a small opening remained, that muscular spasm was also operative in the production of the acute obstruction.

Along side of the abdominal aorta near its bifurcation, were found several enlarged glands. The largest of these was about 1½ cm. in length and 1 cm. in width. When sectioned, varying sized areas of typical caseation of tuberculous etiology were found.

The remainder of the abdominal organs, apart from the effects of the acute peritoneal inflammation, were essentially normal for the individual. The atheromatous changes in the aorta were minimal.

The brain showed considerable fluid in the pia-arachnoid, compensatory to the moderate generalized atrophy. The pia-arachnoid was carefully inspected for tubercles. None were found. Sectioning of the brain, revealed no gross abnormalities.

Microscopic Examination

The sections of the lower lobe of the right lung showed an early bronchopneumonia. Tissue from the apices of the lungs is not potted routinely, consequently, there were no sections of it.

The ulcer found in the small bowel had rather typical tuberculous architecture. Well formed tubercles were present at the periphery beneath the undermined mucosa consisting of central necrosis, radially arranged epithelioid cells, peripherally placed lymphocytes, and a few scattered foreign body giant cells. In the central portion of the ulcer as seen in some sections, there was extensive caseation necrosis extending as far into the wall as the longitudinal muscle layer, surrounded by lymphocytes, epithelioid, and plasma cells. Smaller areas of caseation were scattered throughout the floor, in other sections. Epithelioid cells, lymphocytes, and plasma cells, and a few polymorphonuclears pervaded the exposed submucosa extensively, and the muscular coats moderately. Tubercle bacilli in small numbers were demonstrated by special staining in giant cells, and apparently free in the tissues among the leucocytes.

The ulcer in the descending colon did not have as characteristic histology. The ulceration extended down to the muscular layer. Polymorphonuclears were the predominating cells among the edematous muscle fibers. Epitheliod cells and plasma cells were also present. Undermining was not so prominent. No typical tubercles were seen about the edges of the ulcer. One was found in the subserosa beneath the ulcer, however. No tubercle bacilli were demonstrable.

The tuberculous histology of the ulcer in the sigmoid that caused the obstruction, was completely overshadowed by an acute inflammatory process with extensive coagulation necrosis that extended in decreasing intensity throughout the wall. Polymorphonuclears form a thick barrier deep in the muscle coats above which there is solely necrosis. No tubercle bacilli were demonstrated in sections from this ulcer.

Sections of the spleen, liver, kidneys, adrenals, prostate were irrelevant. Some congestion and considerable cloudy swelling were the only apparent changes. No evidence of tuberculosis in any of these organs was seen.

The lympth nodes along the abdominal aorta were largely composed of tissue that had undergone caseous necrosis. Peripheral to the necrosis are many epithelioid cells, some lymphocytes and plasma cells, and several foreign body giant cells. Tubercle bacilli were found scattered in small numbers throughout the affected portions of the nodes.

No tubercles were demonstrable in sections of the pia, of the Sylvian fissure or other less significant sulci.

Discussion

The division of intestinal tuberculosis into primary and secondary has the justification of all classifications. Its value, however, is impared by the many different bases for this distinction. To David A. Steward [17], primary intestinal tuberculosis signifies there are no pulmonary lesions present. Branch, Caird, and M. J. Stewart, however, confuse pathological varieties of the disease with modes of infection. Branch[3] writes of a primary or hyperplastic form, and a secondary, or ulcerative form. Caird[6] words it slightly different. One type is "chronic, formative and may be unassociated with pulmonary lesions." The other is "acute, destructive, and secondary to pulmonary tuberculosis." M. J. Stewart[18] says substantially the same. The one type is hyperplastic and apparently in most cases a primary infection; the other secondary and usually a complication of pulmonary tuberculosis. Others incorporate the vehicle of infection as well as the mode of infection into the basis of classification. Karsner[11] links the primary form with infection by either bovine or human types of bacilli through the milk or food, and the secondary form to chronic pulmonary ulcerative tuberculosis. Primary intestinal tuberculosis results from the ingestion of tuberculous meat or milk in the opinion of Stengel[16], while the secondary form arises from a previously existing focus. Blumberg[2] places a similar significance on the terms, but believes the primary variety is found only in children.

Brown and Gaither[4] have a more intricate basis of classification. In the one variety, primary intestinal tuberculosis, no evidence of infection is noted elsewhere. It is caused by the bovine type of bacillus in the majority of cases Another variety, secondary intestinal tuberculosis, is a terminal picture in pulmonary tuberculosis. Yet another variety, hypertrophic or hyperplastic form, is due to the human type of bacillus, and secondary to some focus elsewhere.

The portals of entrance of the tubercle bacillus is not as yet exact knowledge. Nor is the nature or extent of the dissemination of the organism, once in the body, fully determined. It would be wise, then, in order to retain the value of dividing intestinal tuberculosis into primary and secondary, to return to the root meanings of the words. Primary focus would then refer to the first tissue involved in the pathological process; secondary focus to the involved tissue following in point of time to the primary and owing its existence, in some way, to the first lesion. Or as McArthur[14], less academically and more usefully expresses it, the term primary intestinal tuberculosis delimits those cases in which there is no other recognizeable lesion from which the infection could rationally have occurred, secondary delimits those cases with the converse conditions. It is to such definitions one should adhere for the present, in classifying intestinal tuberculosis as primary or secondary. The need for exact terminology is evident in statistics compiled by Gant[9]. The incidence of primary infection in autopsied cases having intestinal tuberculosis varied from .5% in a group of 208 to 29.6% in a group of 27.

The case of N. T. falls into the category of a primary infection. There were no pulmonary lesions from which the infection could rationally have arisen. It is not denied, that had the apices of the lungs been carefully examined microscopically, some evidence of previous pulmonary infection might have been found. Gross evidence of this previous infection was lacking. The independence of the intestinal infection of any pulmonary lesion is emphasized by the age of the individual, some 69 years. A different avenue of invasion would seem to have been opened up.

It is not thought the sigmoid lesion was secondary to the involvement of the lumbar glands. These glands normally receive the lympth drainage from the sigmoid[13]. The other intestinal lesions could not be explained as secondary to the involvement of these nodes. Nor were the dilated lympth channels blocked with tubercles present, that Kaufman[12] describes existent in instances of retrograde infection.

As to the source of infection, three observations only will be made. During 10 of his 15 years residence in the Taunton State Hospital, only milk from tuberculin tested cows was available to the patient. His opportunities of contact with active tuberculous cases was smaller than on the outside. His mental condition created an almost complete indifference to his physical self.

The other interesting angle of this case, the acute obstruction, is a rare complication of intestinal tuberculosis of any variety. (Brown and Sampson[5], Erdmann[8], M. J. Stewart[18]). In secondary intestinal tuberculosis, death usually removes the possibility of such a complication. In the hyperplastic variety seen at the ileocaeoal region, chronic obstruction is the invariable result. In the exhaustive bibliography in Brown and Sampson's book[5] few references to acute obstruction were found. In Cullen's case[7], perforation and obstruction coexisted in the region of the caecum. Extensive fibrosis reduced the lumen of the ascending colon to a diameter of 2 mm. Perforation occurred proximal to the obstruction. The mesenteric lymph nodes were tuberculous. A few lines are used to described the case of Atkin[1]. The acute obstruction is said to have been relieved by copious enemata. The patient died shortly after from bowel hemorrhages. There is no mention of an autopsy.

Of Caird's[6] 43 tabulated cases of intestinal tuberculosis, in 35 of which stenosis is stated to have occurred, but two are spoken of as having symptoms of acute obstruction. In both instances, the lesions were in the ileum. In Hofmeister's[10] group of 87 cases of intestinal tuberculosis, the syndrome of acute obstruction is not mentioned. Eisenhardt is quoted by Hofmeister as meeting with but 9 cases in 566 instances of intestinal tuberculosis in which there was more or less definite stricture of the bowel. In only two, was there stenosis in the large bowel. Both were located in the ascending portion.

In a personal communication, Dr. Lawrason Brown wrote that he had never met with a case similar to the one here reported, nor had Dr. LeRoy Gardner, pathologist to the Trudeau Sanitarium, seen or read of the like. It seems probable that other cases of acute obstruction following a tubercular lesion in the sigmoid must have occurred. Their prevalence, however, probably varies directly with the extent to which the lesions are allowed to develop unhampered. If this individual had not been so indifferent to his physical self, the acute obstruction undoubtedly would not have occurred.

Yet another unusual phase of this case remains. The most common location of tuberculous ulcers is in the ileo-caecal region. This was unaffected. In 63 cases of ulceration of the colon in secondary tuberculosis, Schwatt and Steinbach[15] met with involvement of the ascending colon in 50, the transverse colon alone in but 2, and this and other distal portions in but 4 cases. Here, two of the three lesions were in the distal portion of the bowel.

Conclusions

1. A case of primary intestinal tuberculosis with acute obstruction is reported.
2. A classification of intestinal tuberculosis is reviewed with the conclusion that primary intestinal tuberculosis should signify that no other recognizeable foci are present from which the intestinal infection could rationally be derived.
3. Few cases of intestinal tuberculosis complicated by acute obstruction are recorded in the literature.

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PARADOXICAL FORMS OF THE TENDON REFLEXES AND THEIR CLINICAL AND PHYSIOLOGICAL SIGNIFICANCE

Paul I. Yakovlev, M. D.
Pathologist, Monson State Hospital, Palmer, Mass.

In the routine neurological examination the pathological alterations of the tendon reflexes are usually considered only from their quantitative aspect: they may be abolished, diminished, or exaggerated. However, there are pathological alterations of the tendon reflexes which are not only quantitative but also qualitative in character. Thus, one may describe polykinetic, pendulous, paratonic ("hang-up" type), hypertonic tendon reflexes. Sometimes the whole formula of the reflex response is changed so that, instead of ipsi-lateral, a contra-lateral response is elicited, or instead of normal extension movement of the segment of an extremity, a flexion movement is elicited. Such paradoxical forms of tendon reflexes, to be sure, are not very frequent, yet, when observed, they may have a considerable practical and theoretical significance.

I — CONTRA-LATERAL TENDON REFLEXES

The paradoxical contra-lateral tendon reflex is a pathologic form of response in which, instead of a normal reflex movement on the stimulated side, a reflex movement is elicited in the respective muscular group of the opposite side.

Observation 1 — Abolition of the ipsi-lateral adductor reflex and of the ipsi-lateral patellar reflex with paradoxical contra-lateral adductor and knee-jerks, in a case presenting sequellae of acute anterior polio-encephalo-myelitis.

W. D., female, 51 years of age. Acute polio-encephalo-myelitis in early infancy. Muscular atrophy in the right leg. Epilepsy since the age of 7 years. *Present condition* — Patient is a feeble-minded, deteriorated, chronic epileptic. There is coarse, rhythmic tremor in both hands, ceasing during voluntary movements; moderate rigidity on passive movements in both upper extremities and in left lower extremity; cog-wheel phenomenon in forearms. Abdominal reflexes not elicited. Plantar reflex is extensor on both sides. Reflexes of defense are exaggerated on both sides. Muscular atrophy in the right leg affects the quadriceps and adductors of the thigh, the peroneal and anterior tibialis of the leg, and the long flexor of the big toe. Patient walks with a limp in the right leg. There is "steppage" movement in the knee and foot drop. The tendon reflexes in both upper extremities are exaggerated. In the left leg the Achilles reflex, the peroneal, patellar, and internal condylar reflexes are exaggerated; and some of them are polykinetic. In the right leg all these reflexes are abolished. No Achilles, patellar or internal condylar response could be obtained. However, a moderate percussion of the right patellar tendon, while eliciting no response whatsoever, on this side, invariably provokes a somewhat delayed, but quite active, extension jerk of the contra-lateral (left) leg, accompanied by adduction of the left thigh. Also, percussion of the left internal condyle elicits adduction response of the contralateral (left) thigh.

Comment: It is obvious that the lesion of the anterior horn in the lumbar and first sacral segments on the right side interrupted the efferent arc of the respective ipsi-lateral tendon reflexes. The tendon reflexes of the left leg remained intact and became exaggerated as the result of the pyramidal lesion (polio-encephalitis). The curious point of this observation is that while the adductor and patellar reflexes are abolished on the right side, the percussion of the right internal condyle and right patellar tendon both elicit unmistakable and adequate contralateral responses in the left leg. This paradoxical phenomenon demonstrates the integrity of the afferent arcs of the respective reflexes. The stimulus, therefore, reaches the posterior horns of the right portion of the respective lumbar segments (L_2 and L_3); and, while unable to reach the effector muscules of these reflexes on the ipsi-lateral leg, it irradiates in the spinal gray matter over the mid-line and elicits a reflex response in the homologous contra-lateral muscles.

It must be pointed out that in the patho-physiologic mechanism of these paradoxical contra-lateral reflexes two factors take part. One is the already mentioned interruption of the ipsi-lateral efferent reflex arc with the integrity of the afferent arc. The other which, as will be shown later, may alone produce the phenomenon, is the over-excitability of the contra-lateral reflex centers of the spinal cord. This was the case in the patient under discussion. The pyramidal lesion created a state of exaltation of the tendinous reflexes on the left side, making their threshold lower than normal. It also promoted the diffusion of stimuli beyond the centers directly stimulated.

A contra-lateral adductor reflex of the thigh, as a result of diffusion of stimuli in the segment of the spinal cord liberated from pyramidal control, was described a long time ago by Pierre Marie. It constitutes an exquisite sign of latent over-excitability of tendon reflexes caused by the pyramidal deficiency.

So far as the writer is aware, the contra-lateral patellar jerk has not yet been described. The interest of the present observation is enhanced by the coincidence of contra-lateral patellar and adductor reflexes with complete abolition of the respective reflexes on the ipsi-lateral side. Such a phenomenon is truly a paradoxical contra-lateral reflex.

Instances of this kind show that simple clinical observations may sometimes yield almost experimental demonstrations of the laws of nervous function. Thus, the present observation demonstrates the integrity of the afferent arc of the spinal reflexes in a case with an anterior horn lesion from acute poliomyelitis; it shows the irradiation of the stimulus from one side of the spinal cord over the mid-line to the opposite side, when the respective centers are made over-excitable by the pyramidal deficiency; and lastly, it demonstrates that the tendon response is not a result of direct stimulation of the muscles but is a true reflex, because in the present case the quadriceps and adductor muscles on the right side were not excitable by the direct stimulation of their tendons. Yet a response was elicited in the respective muscles of the opposite side, which were not at all directly stimulated.

II — Inverted Tendon Reflexes

When, after the stimulation of a tendon, instead of a response in the muscular group innervated by the respective spinal segment, a response in the muscular group of different overlying or underlying segments is elicited, then this pathologic alteration of the tendon reflex may be called "inversion" of the reflex.

Observation 2 — Inversion of the Peroneal reflex.

L. C., a boy 14 years of age; when 2 years old had an acute illness with fever, diarrhea, and convulsions; following this illness his right eye "turned in" and for about two months he was unable to walk because of weakness and wasting of the muscles in both legs below the knees. He improved, however, and walked again, though he remained mentally backward and at the age of 8 years he began to have epileptic fits. *Present Condition* — Muscular atrophy of both legs affecting the deep muscles of the calf and the peroneals. There is slight bilateral foot drop. The feet are in moderate equino-varus position. When walking, the feet become everted in an equino-valgus position. The inward rotation with plantar flexion in both feet is good. The outward rotation with dorsi-flexion is weak on both sides. There is slight internal strabismus of the right eye; extensor response on the right foot and tendency to extension of the big toe on the left. Tendon reflexes are present and some of them exaggerated; left patellar is more active than the right, while Achilles is more active on the right than on the left. Internal malleolar reflex is present on both sides. The peroneal reflex, on the contrary, is abolished on both sides. However, the percussion of the external malleolus, instead of eliciting normal peroneal response, — outward rotation of the foot — causes just the opposite response, *i.e.* the inward rotation of the foot.

Comment: In this case, also, one deals with sequellae of acute anterior polio-encephalo-myelitis. The muscular atrophy in both legs, the abolition of peroneal reflexes, and exaggeration of other reflexes, the Babinski sign, and epilepsy, indicate an anterior horn lesion of the spinal cord combined with pyramidal deficiency, due probably to the cerebral involvement. There was a bilateral inversion of peroneal reflex, *i.e.*, instead of normal outward rotation of the foot on percussion of the external malleolus, an inward rotation of the foot was elicited; the latter form of the response being typical for the stimulation of the internal malleolus. The center of the peroneal reflex is located mainly in the fifth lumbar segment; that of the internal malleolar reflex, mainly in the first sacral segment. The aboli of the former reflex, with atrophy of the peroneal muscle, is explained therefore, by the lesion of the anterior horn in L_5 while the persistence of the tibial jerk of the foot testifies to the integrity of S^1. The inversion of the peroneal response on stimulation of the external malleolus into that of tibial response can be explained as the result of the same patho-physiologic mechanism which has been demonstrated in the previous case. The stimulus from the external malleolus does not reach the peroneal muscles because the efferent arc of this reflex is blocked by the anterior horn lesion in L_5. It diffuses, however, over S_1, the reflex arch of which is intact, and the threshold of excitability of which is diminished by pyramidal deficiency. Thus, a tibial response is elicited.

Inversion of Tricipital Reflex: This paradoxical tendon reflex has been known for a long time and occupies an important place in the semeiology of lesions of the cervical cord. By the percussion of the elbow in the region of the olecranon, as Babinski pointed out, normally two responses may be obtained. If the tendon of the triceps muscle is percussed, then extension of the forearm is obtained. This is the common tricipital response, the reflex arc of which is switched in C_7. If the periosteum of the olecranon is tapped, then, especially in persons with active reflexes, flexion and pronation of the forearm may be induced. This response is identical with, and has the same reflex arc as the stylo-radial reflex of the forearm obtained by percussion of the head of the radius. The center of the respective reflex arc is located mainly in C_5. If C_7 suffered a lesion while C_5 remains intact, then the tricipital reflex becomes abolished (or diminished) and the percussion of the tendon of the triceps results in paradoxical inversion of the normal response (extension of the forearm) into flexion and pronation of the forearm. In other words, here again the stimulus destined to C_7 reaches the spinal cord but instead of taking the respective efferent arc of C_7 it takes the efferent arc of C_5 (flexion of forearm) and C_6 (pronation).

The inversion of the tricipital reflex may, however, have a different mechanism. Thus, it may be observed not infrequently in cerebral hemiplegia without lesion of the cervical cord. In such cases, the mechanism responsible for the inversion of the tricipital reflex is due to the elective exaltation of reflexes in certan groups of muscles without corresponding exaltation in the reflexes of the other muscular groups of the affected extremity. As it is well known, the adductors, flexors, and pronators of the forearm are those muscular groups which exhibit in ordinary hemiplegia an elective exaggeration of their reflexes, while the adductors, extensors and supinators are less exaggerated in their responses. This elective exaggeration of tendon reflexes is one of the fundamental factors which cause the characteristic attitude of the upper extremities in so-called "post-hemiplegic" contracture. In this case percussion of the tricipital tendon, because of the diffusion of the stimuus in the cervical cord, liberated from the pyramidal inhibition, and because of the exquisite over-excitability of the flexion-pronation reflex arcs, elicits an inverted response, the excitation of C_7 being overpowered by that of C_5 and C_6.

Inversion of Stylo-radial Reflex: Normally the stylo-radial reflex is elicited by percussion of the head of the radius and consists in flexion and pronation of the forearm. This reflex becomes inverted when, instead of flexion and inward rotation of the forearm, there occurs a flexion of the fingers. The flexion of the fingers may be the only response to percussion of the head of the radius — a complete inversion of the stylo-radial reflex — or it may be associated with the normal response — partial inversion of the stylo-radial reflex. The latter form is a very common observation. It is an exquisite sign of exaggeration of the stylo-radial reflex. It demonstrates that this reflex has lost its local sign; and it brings into evidence diffusion of the stimulus in the spinal cord from C_5 and C_6 over C_8.

The total inversion of the stylo-radial reflex is less common, but as Babinski pointed out, it has a great localising significance. Babinski explains the mechanism of this paradoxical form of the stylo-radial reflex in the following words: "Three conditions are necessary for a complete and striking inversion of the stylo-radial reflex: (1) Lesion of the fifth cervical segment; (2) Integrity of the eighth cervical segment; (3) Deficiency of the pyramidal system above the eighth cervical segment." If, besides C_5, the lesion involves also C_6 and C_7, then the pronator reflex of the forearm (C_6) and the tricipital reflex (C_7) will be abolished; on the contrary, if the lesion is limited to C_5, sparing C_6 and C_7, then both of these reflexes will be exaggerated.

The behaviour of the tendon reflexes, together with pathological alterations of sensation and of the reflexes of defense, constitutes an extremely valuable criterion for a fine localization of lesion in the cervical cord (Babinski).

III — Inversion of Patellar Reflex

A lesion of the third lumbar segment with integrity of the fourth and fifth lumbar segments may lead to inversion of the patellar reflex by the mechanism of intra-spinal diffusion of the stimulus, as described above. This phenomenon is known as the "paradoxical knee jerk of Benedict". However, as the writer was able to observe, such inversion of the knee jerk occurred in a case of post-encephalitic Parkinsonism and could be explained not by segmental, but by a suprasegmental, extra-pyramidal mechanism.

Observation 3 — Patient, a woman, aged about 30 years, had an acute attack of epidemic encephalitis in 1919; five years later she became afflicted with a typical post-encephalitic Parkinsonian syndrome. There was generalized rigidity, more marked on the left side of the body. There was cog-wheel sign in both upper and lower extremities; typical shortening and lengthening reactions could be elicited in large and small segments of the extremities. The antagonistic contraction was highly exaggerated in the deltoid, triceps femoris, gluteus, and ham-string muscles; and was particularly marked on the left side. Tendinous reflexes were all present; they exhibited alterations which permitted one to qualify them as "hypertonic". They were not exaggerated, nor were they diminished. The threshold of the reflex reaction on percussion of tendons was rather high; the intensity of the response was on the contrary, greater than normal, and more so on the left side than on the right. In other words, the response was brisk and tended somewhat to the principle of "all or nothing". The most prominent features of these reflexes were the exaggerated reaction of the antagonists, and the small amplitude of reflex movements. On percussion of the left patellar tendon, instead of an extension kick, a flexion movement of the leg occurred. This happened only when the patient was examined sitting on the table, her legs hanging down in a position of a right angle to the thighs. If the leg was moved into a position outside of this angle (more or less than 90) a normal extension jerk could be obtained.

Comment; Here we have a paradoxical knee jerk in the mechanism of which the exaggeration of the reaction ot antagonists is a dominant factor. On percussion of the patellar tendon, which normally elicits an extension jerk of the leg, there occurs the reflex contraction of the quadriceps femoris, which in this case is the "prime mover", and also to a lesser degree, reflex contractions in the ham-string muscles, which are the "antagonists". The former is a "phasic" contraction, the latter is a "postural" contraction. In the Parkinsonian syndrome the postural contraction of muscles is exaggerated. In the hypertonic type of patellar reflex, as commonly observed in clinical syndromes characterized by the extra-pyramidal rigidity, the exaggeration of the antagonistic ham-string contraction is a highly typical feature ("ham-string phenomenon"). In the described case the antagonistic contraction of the ham-string muscles, when favored by the position of the leg (at rights angles to the thigh), overpowers the phasic contraction of the quadriceps, causing paradoxical inversion of the patellar reflex.

The paradoxical forms of tendon reflexes, as described in this paper, may appear to be merely sophisticated niceties of interest only to a leisurely man. Nevertheless, they are clinical realities; their observation may reveal pathologic physiology of nervous disease; it may demonstrate the fundamental principles of reflex action, and sometimes permits to make a fine localization of lesions. To be sure, they are small details, yet in the matter of clinical observation it is precisely the details that are usually important.

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THE PATHOLOGIST'S DUTY IN OBTAINING PERMISSION FOR AUTOPSY

By William Freeman, M. D.
from the Research Service
Worcester State Hospital, Worcester, Massachusetts

The hospital pathologist who concerns himself with only the performance and diagnoses of such autopsies as are requested is shirking a very important part of his duty. Unless he takes an active part and interest in methods of stimulating an increase in the number of autopsies he hinders the scientific advancement of the staff and institution which he serves. The need and value of larger necropsy percentages have been well shown by many leaders in the medical profession. Waite[1] believes that "All roads in medicine either emanate from or lead to the post mortem table." Christian[2] stated, "Any hospital service is incomplete without a check-up of the clinical diagnoses in those cases that are fatal. — The autopsy number and percentage is the best single index of the professional efficiency of a hospital." The latter statement is undoubtedly stretching the point a good deal. A more conservative attitude would be to the effect that the autopsy percentage is one of the best indices of the scientific attitude of a hospital. Bluestone[3] was more emphatic, "No hospital is larger than its pathological laboratory. The progressiveness of a hospital is in direct ratio to the laboratory-spirit which it maintains." This 'laboratory-spirit' must essentially emanate from the pathologist for Bell[4] states, "The pathologist *must* make the physician *want* to see an autopsy on the clinical cases that die."

Bluestone believes that, "The medical profession should regard every death from disease as a symbol of their failure to save life." The pathologist therefore, attempts to learn from and help decrease the number of these failures. If the autopsy is regarded as such a valuable adjunct in the study and knowledge of disease processes and the pathologist is supposedly a leader in this study why, then, should he regard the efforts to increase the number of these studies as a purely administrative and clinical problem and leave that work to others?

The pathologist must incur and maintain the good-will and confidence of all members of the hospital staff: internes, house officers, residents, visiting and consulting staff alike. These clinicians are the ones who will, in the end, ask permission for autopsy from the bereaved ones, even beg for it at times. It appears hardly logical to suppose that any human being (and the clinician is no more than human) will force himself to face such situations to supply the necessary work for one whom he dislikes. With an existing feeling of good-will the physician will feel a personal interest to obtain this essential examination in every possible case.

The pathologist should encourage the clinical staff to view every patient who is dangerously ill as a possible subject for post-mortem examination. Keeping this possibility in mind the attending staff can mold the feelings of the relatives while the patient is still living so that they (the relatives) will feel a return obligation to grant requests that the staff asks of them. There are many excellent papers containing valuable suggestions for use in the development of this "consent psychology" on the part of relatives. It is not the intended scope of this paper to discuss this important phase in gaining permission for autopsies but a partial list of the more important articles is worthy of reference. Bluestone[3], Bell[4], Gordon[5], Tarr[6], Warwick[7], Boyd and Gordon[8], Parkhurst[9] and Characheˡ[10] have written papers which are recommended to pathologists and clinicians alike for their valuable aids and suggestions. Religious misbeliefs form an important subject in the refusal of permission for autopsy and such objections are cited by Joslin[11], Gottlieb[12], and Lauterbach[13].

Clinico-pathological conferences are an excellent method of stimulating the staff to *want* to see autopsies on their cases that die and verify the clinical diagnosis. The pathologist should urge them. This institution holds such a conference each month. At the meeting, one case is presented as a problem by the staff who treated the patient. The remainder of the staff discusses it from the psychiatric, medical and therapeutic view-points and the pathologist engages in the discussion of the necropsy findings.

The relatives in nearly every instance, wish to share in the knowledge of the findings and diagnoses of the examination. It is much easier to obtain a request for an examination from individuals who know beforehand that they will be told of the causes of death. Without this the relatives consent only on the argument of "assisting science" which is a very impersonal and lofty one. Doctor William A. Bryan, Superintendent of this institution, devised and routinely sends a form letter to the relatives of every patient who has been necropsied. A typical letter of this type is: —

> My dear Mrs. Doe:
>
> I am writing to give you the results of the examination which you so kindly permitted us to make, following the death of your husband, John Doe.
>
> We find that his death was caused by pneumonia. He had a chronic kidney disease and ulcer of the stomach. There was a marked degree of

> hardening of the arteries of the brain which accounted in some measure for his mental symptoms.
>
> May I express my personal sympathy to you at this time and assure you that the hospital did everything possible to make your husband comfortable during his last illness. He suffered very little and his death was peaceful. The rites of the Church were administered to him by our Catholic Chaplain.
>
> If the hospital can be of any further service to you at any time, please do not hesitate to call on us."

It is to be noted that this letter is worded in the very simplest of English terms. The relatives receiving such a letter must feel that they too have gained by granting permission. The pathologist would do well to take on such a duty, personally, if it is not already done by the institution.

The pathologist must cooperate with the undertakers who receive the autopsied bodies. The undertakers compete by making the corpse attractive in the least time. It takes two or three extra hours work to accomplish this even under the best of conditions on an autopsied body. When this work is increased because of carelessness on the part of the one who performed the autopsy in neglecting to help lighten the load, is it small wonder that the members of their profession are antagonistic towards autopsies in general. This ill-feeling can be remedied and has been remedied to some extent in this community.

The pathologist might interview the morticians of his community. Doctors Bryan and Flower have been responsible, in a large measure, for the existing good feeling between the local undertakers and this institution. These doctors interviewed the group and asked for their reasons for previous antagonistic attitudes. To change this attitude it is important that we follow out the suggestions that the undertakers made. By so doing, it must interest them in our getting and doing autopsies. In this connection, Doctor Bryan uses another type of form letter which he sends to every undertaker who collects an autopsied corpse from this institution:

> "Dear Sir:
>
> This hospital is endeavoring to give the best and most efficient service to the members of your profession. We are anxious to render every assistance to visiting morticians, and in order to check up our methods, I am writing to ask if everything was satisfactory in the case of Jane Doe, delivered to your firm May 17, 1932. An answer to the following questions will be appreciated.
>
> Did you receive prompt and courteous attention when you called for the body?
>
> Was the body in good condition?
>
> Have you any suggestions to offer that will facilitate your work in any way?
>
> Are our autopsied bodies in good condition, and can you suggest any way in which we can improve our autopsy methods?
>
> We desire to cooperate with you in every way, and if anything occurs in the future that requires correction, please inform me at the earliest opportunity."

We have received many interesting and valuable suggestions from these letters. We had one of the group demonstrate his method of embalming an autopsied body in our laboratory, so that we could visualize his difficulties and improve our technic to make those difficulties less troublesome. In return we have been more than compensated by their change of attitude and aid in advising their clients to allow us to perform post-mortem examinations.

The results of these conferences with the undertakers have elicited the following points as essential in every necropsy, and are deemed worthy of elaboration. These routine procedures take very little extra time.

Wrist and Chin Ties: The corpse should not have any wrist or chin ties. When the body is "laid-out" on the wards by the nurses it has been their custom to secure the two wrists by tieing with a wide bandage. They also close the mouth by bandaging the lower jaw tightly to the head. As rigor mortis sets in, these ties leave visible marks on the corpse at the funeral that are particularly unsightly. Undertakers on the whole prefer that these ties be omitted. The sleeves may be pinned to the body of the shroud (to prevent the slipping of the arms.) If the chin does sag they much prefer to wire the upper and lower jaws together from the inside of the mouth.

Trunk: The "Y" incision is used on all trunks, male or female alike. Starting at both acromio-clavicular junctions the incisions are extended downward and towards the anterior medial line, meeting at the xyphoid process. It is then extended downward in the midline of the abdomen. This method hides any incision marks at the funeral. The wide thorax incision allows the subcutaneous exposure of all the neck tissues (we remove the larynx in every case) and does not distort it even when a low-necked gown is used to dress the corpse. In those cases where the autopsy is limited to the thorax alone the "V" incision is used identically with the upper half of the "Y". In autopsies limited to the abdomen, the inverted "V" incision is used beginning at the xyphoid and extending to the anterior-superior spines of the ilia. This affords an excellent exposure of the abdominal cavity.

All organs are removed and never replaced within the body cavity. Their remnants are burned in the hospital incinerator. If an organ is allowed to remain within the body, once its blood supply is severed which renders embalming of that particular organ impossible, it will putrify, and give off a very offensive odor. Therefore, the undertaker must do what the pathologist carelessly failed to do.

The feces are milked upward in the tract starting from the rectum so that there will be no remaining stools in the colonic stump that is allowed to remain in the body. The stump of the rectal colon is tied at its severed end. The severed end of the vagina is likewise treated after the removal of the uterus.

The remaining stumps of vessels are tied. The stumps are left sufficiently long (both vessels and twine) so that they may be easily found by the mortician in case he wishes them. The right innominate, left common carotid, and left sub-clavian arteries are tied in the thorax. The beginning of the two common iliac arteries are likewise treated in the pelvis and the corresponding veins of these vessels are included in the ties. On partial autopsies, if only a portion of the trunk organs are removed, the cut ends of the vessels must be tied.

The empty cavities are sponged and wiped absolutely dry. If this is not done the fluid, will soon become odoriferous. The incision of the trunk should be sutured in the same manner as noted above heeding the same precautions.

Head: The scalp incision should start just back of the external ear (in the posterior external ear-fold.) It is carried on top of the head, well back from the vertex, so that it will not show at the funeral. In case of bald heads the incision is kept within the hairy fringe which is usually present around the occipital portion of the scalp. In this instance the scalp will strip over the face if the ends of the incision are carried downward keeping within the posterior ear-fold. Incisions outside of this ear-fold will show their suture mark at the funeral.

When the brain is being removed the stumps of the two vertebral and internal carotid-middle cerebral arteries are left as long as possible. They are sealed securely by tieing with suture material. The corresponding optic nerves may be included in the tie of the internal carotid arteries to give body to the walls of the vessels. The pituitary body may be removed without mutilating the stumps. These ties in themselves are usually sufficient to withstand the force of the embalming fluid except if the vessels are sclerotic and brittle. It is well, therefore, after the cavity is sponged and wiped dry to reinforce the ties by filling the lower cavity with plaster of Paris. It is extremely disagreeable to have bloody-embalming fluid stain the pillow of the casket at a funeral because vessels leak and the fluid seeps through the sutured scalp. Plaster of Paris in itself will not prevent such leaks.

The upper and lower temporal edges of the cranium must be wired on either side to prevent the upper portion from slipping and showing distortion of the head at the funeral. We use an ordinary small bore, carpenter's bit and number 18 copper wire.

Spinal Column: The removal of a portion of the spinal column and cord presents a difficult problem on account of its location as the body lies on its back. Ordinarily this procedure allows fluid to seep through the suture incision and will stain the casket lining and clothes, a mishap which is particularly annoying. After the removal of the cord all of the severed vessels are sought and individually tied. The bone fragments are not replaced. The cavity is sponged and wiped dry. The skin incision must be carefully sutured. This technic results in a dry back.

Suture and Tie Material; A very important point from the mortician's point of view is the suture material. It must not break or it will either allow distortion of the skin of the body or seepage of body fluids and stain the lining of the casket or both. We use Belfast cord which is a starched white cord of very satisfactory strength. The sutures must be close enough to prevent seepage of fluid from the edges of the incisions. We use the baseball stitch, each stitch not more than one-half inch away from its fellow above or below and by keeping the string taut results in waterproof-sutured incisions. Particular care must be used to make the incisions absolutely leak-proof, in the head and back.

The skin of autopsied bodies is next washed and wiped clean and dry. At this time the sutured incisions should be closely scrutinized for leaks. If any does occur it can be stopped by close sutures.

The shroud should be clean and dry. No one cares to handle soiled clothing and the undertaker is no exception. At the time the undertaker calls for the body someone conversant with the extent of the autopsy should verbally inform him of it and the vessels that remain tied. If this is not practicable (in those instances in which bodies are called for out of usual hours) a slip of paper containing the necessary information may be left with the body.

Time: The pathologist should never keep the undertaker waiting for a body. At the time the permission is obtained the relatives are asked the name and address of the undertaker who is to call for the body or else (if they have not as yet decided upon one) they are asked to have the man they select call to make a definite appointment at which time he may receive the body. Once the appointment is made (an hour is added on to the estimated time for completing the autopsy and preparing the body) that body should be ready for delivery before the arrival of the hearse.

The undertaker has just as much right to call for a body at mid-night (providing he has the necessary permits) as during the day. Any delay that the institution may cause by opposing such a right will result only in antagonism and defeat of purpose in increasing the percentage of autopsies.

It is justifiable to ask if the results of such an elaborate and extensive procedure has any compensation. One's answer cannot be more forceful than the actual results. Our present methods in cooperating with the undertakers was started during the early part of 1931. A comparison between the results in the years 1930 and 1932, inclusive, is given in the following table. It is also worthy of note that since the onset of using this procedure up to the present time over 180 autopsies have been performed with but one case in which it was granted with limitations as to the extent of the examination.

These methods really add very little extra work as far as the pathologist himself is concerned. A well trained assistant can open the calvanium, remove the brain, split the spinal column, tie the cut vessels and suture the skin while the pathologist is removing, describing and sectioning the organs. The suture procedure has taken us but two hours in our speediest work from start to finish including the weighing and measuring of every organ.

TABLE OF AUTOPSY STATISTICS

Month	*1930*	*1931*	*1932*
January:			
died	15	24	20
autopsied	8	6	15
per cent autopsied	53.3	25	75
February:			
died	16	30	20
autopsied	2	15	14
per cent autopsied	12.5	50	70
March:			
died	38	18	24
autopsied	12	10	14
per cent autopsied	31.6	55 5	58.3

April:			
died	18	27	24
autopsied	5	11	16
per cent autopsied	27.8	40.7	66.6
May:			
died	21	19	20
autopsied	7	14	17
per cent autopsied	33.3	73.6	85
June:			
died	14	15	
autopsied	2	10	
per cent autopsied	14.3	66.6	
July:			
died	21	15	
autopsied	9	6	
per cent autopsied	42.8	40	
August:			
died	16	17	
autopsied	5	7	
per cent autopsied	31.3	43.7	
September:			
died	9	9	
autopsied	2	5	
per cent autopsied	22.2	55.5	
October:			
died	12	13	
autopsied	6	9	
per cent autopsied	50	69.3	
November:			
died	18	17	
autopsied	7	15	
per cent autopsied	38.9	88.2	
December:			
died	29	16	
autopsied	10	7	
per cent autopsied	34.5	43.7	
Totals for Year:			
died	227	220	
autopsied	75	116	
per cent autopsied	33.0	52.7	

Summary: The pathologists are urged to take an active part in order to increase the number of post-mortem examinations in the institutions which they serve.

Periodic clinico-pathological conferences will stimulate the staff to *want* to see autopsies performed on the patients who die.

Relatives should if they so desire, be informed of the results of the post-mortem findings. The pathologist must be willing to take on such a duty.

Pathologists must give careful attention to the care of autopsied bodies following the suggestions of the local undertakers. The technic used must be one that aids the embalmer in every detail.

Close cooperation between the pathologist and the undertakers will result in their help rather than antagonism.

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TWO CASES OF POST-ENCEPHALITIC PARKINSONIAN SYNDROME OF LONG DURATION

By Naomi Raskin, M.D.,
Pathologist, Boston State Hospital

It was during the World War that Dr. C. Von Economo of Vienna[1] described the clinical and pathological pictures of an apparently new epidemic disease to which he gave the name encephalitis lethargica because of the prominence of the somnolence. He observed carefully several cases and made the study of the brains of the patients dead during the acute stage of the disease. He found polioencephalitis cerebri, pontis and medullae with inflammatory perivascular and diffuse infiltrations of the nerve tissue proper, also slight neuronophagia. The enormous round celled perivascular infiltration was especially pronounced in the gray substance around the third ventricle, in the nuclei of the oculomotor nerves, around the aqueduct of Sylvius and in the floor of the fourth ventricle. As the epidemic of encephalitis lethargica made its appearance in France, England, America and Germany, numerous publications by French[16], [17], [31], English [3], [6], [33], [34], American [20], [21], [36], and German[12], [28], [29], writers appeared who supported Economo's idea that the disease was of an acute inflammatory character, involving the whole cerebrospinal system, but with a special predilection for the mid-brain. The basal ganglia were involved in many cases as a part of the picture, but not to the same degree as was the substantia nigra. The substantia nigra showed severe involvement in practically all the cases. At the same time Buzzard[34], reported four cases, and Watson[33], one case in which it was found that the process of acute encephalitis lethargica involved chiefly the cerebral cortex. The very careful examination of the large material by Hugo Spatz[12], DaFano[6], Carmichael[5], MacAlpine[2] and [3], and others, showed that the disease is of a patchy distribution, the gross changes being rather insignificant, that the perivascular infiltration is of the lymphocytic character and that the inflammation has a predilection for the brain stem. As the time went on numerous clinical observations appeared in the literature. It was observed that some patients, after the period of an apparently complete recovery lasting from six months to three years, began to develop akinesia, tremors, immobility of the face, and became gradually more and more rigid, the picture resembling paralysis agitans. This is known as the post-encephalitic Parkinsonian syndrome. It was also noted that some patients passed from the acute stage into the chronic without the period of improvement. These cases attracted much attention and were subjected to a very thorough study by MacAlpine [2], [3], Hunt and Cornwall[4], Carmimichael[5], Freeman[7], Strauss and Globus[8], Hassin[9], Spatz[12], Zucker[13], Pjatnizky and others[14], Greutzfeldt[15], Marinesco [16] and [17], McKinley [21], Jacob[28], Wimmer[29] and many others. The search for the lesions responsible for the Parkinsonian syndrome, and the attempt to correlate the clinical picture, the etiology of the disease, with anatomical findings, occupied many experienced investigators.

It was thought at first that the lesions in the globus pallidus produced this syndrome (Ramsay Hunt's viewpoint), but in 1919, Tretiakoff in France, and later K. Goldstein in Germany, found that in all their cases of the post-encephalitic Parkinsonian syndrome, or as it is called by many, chronic encephalitis, the most severe and constant changes are found in the substantia nigra. Numerous investigations followed, and practically all agreed that the changes in the substantia nigra must be held responsible for the clinical picture of the Parkinsonian syndrome. These lesions consist in the tremendous loss of the large pigmented cells of the zona compacta of the substantia nigra, with consequent overgrowth of the neuroglia, which takes their place. The loss may bring the number of cells to a mere fraction of their original number, but there is never a complete disappearance of them. The cell pigment is scattered between the preserved cells and the nueroglia. The vessels usually show perivascular infiltration. The difference between the acute and chronic encephalitis is that in the acute stage the inflammatory changes affecting the blood vessels, producing heavy perivascular infiltration, "cuffings" are more pronounced, while the neuronophagia is slight. In the chronic stage, the inflammatory perivascular infiltrations are discrete, but the lesions involving the nerve tissue proper come to the fore. It seems that the period of convalescence occurs when the inflammatory reaction has subsided and the nerve cell destruction and disappearance has not been completed. The question whether the post-encephalitic condition was due to the same virus which is the cause of acute encephalitis lethargica was answered by Levaditti, Harvier, and others, in the affirmative. It is a filterable virus. It has also been proved that the virus persists, and is likely to produce, new lesions, which means that the disease is active, progressing; that the chronic encephalitis is not the sequence, but a continuation, an evolution of the same morbid process. This accounts for clinical remissions and exacerbations in the course of the disease. The longer the patients live the more variations in the loci affected is to be expected.

Lately we had the opportunity to examine two cases, one of seven, the other of eleven years duration; one patient a young boy, who first became ill at the age of nine, and the other a young woman, who became ill at the age of twenty-six. We felt it would be valuable to compare these two cases, since they presented different clinical and pathological pictures.

Case No. 1. N.D.R., Boston State Hospital Number 29,991. A sixteen year old boy was born in Boston of Italian parents. Up to the age of nine he had normal development. He started school at the age of four and went as far as the sixth grade, but left school because of his illness. The father said that at the age of nine he began trembling all over about one week after a tonsillectomy. He could not controll his hands nor his legs. These symptoms persisted, although at times he was "well" and at other times could not even walk. He was taken to the Out-Patient Department of the City Hospital, also to the Children's Hospital. The informant stated that for a while the patient slept days instead of nights; also that the psychosis began about a year ago, and the difference between the past and present is that the patient talks "very dirty". The patient became excitable and was violent at times.

Physical Examination showed a fairly well developed, but poorly nourished adolescent boy with moist skin. He complained of nervousness and deformity of feet. There was a marked rigidity of muscles of the legs and arms, and the pupils were slightly irregular; reacted fairly well to light and distance. His eyes were staring and there was an immobility of facies. Superficial and deep reflexes hyperactive, but equal. Some ankle and knee clonus. Positive Rhomberg. Babinski negative. Marked tremor of the tongue, of extended arms, fingers, and of legs and feet. Chest negative. Blood pressure, 140-95. Wassermann reaction on serum negative.

Mental Examination. Patient was very noisy and disturbed, at times uncooperative, at other times cooperated well during the examination. He used obscene language and was emotionally unstable and very irritable. He was oriented, relevant and coherent.

During patient's residence, at the hospital, of six months, he was noisy, irritable, excited, and attempted suicide. He became acutely ill on November 23, and died on December 6. The autopsy was performed three hours later.

Autopsy findings. The body was greatly emaciated. His legs were bent in the knee-joints and fixed so that they could not be straightened. Pes equinus. Decubitus ulcers over sacrum. Panniculus very thin. Muscles pale. Heart-valves negative. Kidneys large and firm. Adrenals negative. Aorta smooth and elastic. Right lung negative. Left lung — bronchopneumonia. Liver, negative, Spleen, large and soft. *Head.* Scalp thin and reflected easily. Calvarium was thin. Dura mater negative. Brain weighed 1,460 grams, was large, firm and presented the appearance of a "cherry brain". All the vessels were engorged: The capillaries formed a finely injected network. The convolutions appeared normal. No gross areas of softening. Cranial nerves grossly negative. On section both substantia nigra nuclei appeared of very pale brownish color instead of normal grayish-black. Both globus pallidus appeared paler than normal.

Microscopic examination. Cerebral pia showed considerable dilatation and stasis of the small and middle-sized vessels with small celled infiltration.

Cortex — blood stasis in the small and middle-sized vessels with dilatation of the perivascular spaces, which were empty. Occasional discrete perivascular infiltration and slight perivascular gliosis. Moderate neuronophagia in the deeper layers of the cortex — 3–4 perineuronal satellities around a very degenerated nerve cell. The most pronounced neuronophagia was noticed in the right post central region.

Left globus pallidus — most of the large pyramidal and fusiform cells were preserved and appeared healthy. Occasional degenerated ganglion cell surrounded by 2–3 satellites was found. One medium-sized vessel had calcified walls, the calcification affecting the adventia and media.

Right globus pallidus — showed more pronounced neuronophagia than in the left pallidus. There was hemorrhage into the substance of the tissue — accumulations of red cells not in the immediate vicinity of any altered blood vessel. Neuroglia was increased and rod cells were noticed in large numbers. Abundant fat was found in the nerve cells and free in the nerve tissue proper.

Left substantia nigra. The number of pigmented cells was considerably decreased. The remaining cells looked normal, or almost normal, except that they had changed their outline and appeared to have increased amount of pigment, while the others seemed to have none. Free black pigment was found. Large fibrous astrocytes were numerous. Abundant fat in the vessel walls, especially in walls of veins.

Right substantia nigra. A much more pronounced loss of nerve cells here than in the left substantia nigra. Only a few of the ganglion cells remained. There was a large amount of free brownish-black pigment. Neuroglia increased. Abundant fat about the vessels.

Both striate bodies — show no noteworthy changes.

Thalami — There was slight neuronophagia and distention of the perivascular spaces.

Cerebellum — negative.

Myelin sheath stain — shows no noticeable changes.

Case No. 2. C. T., Boston State Hospital Number 30,532. A white American woman, age 37, admitted to the Boston State Hospital February 23, 1932, died February 28, 1932. Her young daughter gave the history of the sickness of eleven years duration, which had been diagnosed as post-encephalitic Parkinsonian syndrome by several physicians. There were several psychotic relatives on patient's maternal side. In 1919, patient had "influenza" at which time she was very sick and almost "lost her eyesight". Shortly after this, her youngest child was born, and six months later the present sickness began. Her movements became very slow, especially of her arms. She was treated at the Massachusetts General Hospital where she was told that nothing could be done for her. Following the birth of the last child, the patient became very retarded, complained of feeling tired all the time, was unable to do her housework, and required considerable care. For the past five years she had to be spoon fed and the past year slept very poorly. Finally she became such a great care that the family physician advised them to send her tc this hospital.

Physical Examination showed an extremely emaciated, ill-appearing, young white woman with moist skin. The patient was very sick and deteriorated, and the examination was difficult. Pupils equal, regular, reacted to light and distance. She was unable to walk. Deep and superficial reflexes equal and hyperactive. Bilateral Babinski and clonus. Loss of control of organic reflexes. Numerous moist rales throughout bases of both lungs. Very rigid. Drooling of the saliva. She made no reply to many questions, and when she did speak she could be understood only by a person familiar with her and with her ear close to the patient's mouth. Her answer was interpreted by her daughter as relevant. She lay quietly in bed, inert and irresponsive. Died of Bronchopneumonia. The autopsy was performed twenty-two hours later.

Autopsy findings. Extremely emaciated white female. Both hands were bent in pill-rolling position; the fingers could not be extended. Pes equinus. Heart negative. Lungs showed purulent bronchitis and bronchopneumonia. Liver negative. Gall bladder contained numerous small stones. Kidneys negative. Adrenals negative. Gastro-intestinal tract negative. *Head.* Scalp negative, reflected easily. Brain weighed 1,220 grams. Dura mater negative. The pia-arachnoid was intensely congested in patches. The convolutions of the frontal lobes appeared slightly atrophic. The capillary vessels were engorged and stood out. The section through the peduncles showed the substantia nigra very narrow and pale brown.

Microscopic examination — Showed widespread lesions of the central nervous system of both chronic and acute nature in the cerebral hemispheres (Nissl's stain).

Pia-arachnoid — Dilated vessels with perivascular infiltrations consisting of lymphocytes and few plasma cells. There was some fibrous hyperplasia of the pia.

Cortex. Numerous engorged vessels with heavy "cuffing" of most of the small and middle-sized vessels. Other vessels showed dilatation of the perivascular spaces either without or with discrete perivascular infiltration. There was hyalinization of walls of numerous vessels with the perivascular hemorrhages. Long rows of granular cells were noticed along the capillaries, thought to be microglia. The large pyramidal Betz cells were rounded in shape, smaller than usual, and stained intensely. The most affected were the cells in the deeper cortal layers. The small and medium pyramidal cells stained faintly, the nucleus was sometimes indistinct. Many were surrounded by 4–8 perineuronal satellites. Several rosettes were seen. The increase of protoplasmic glia was enormous. The rod cells were present in large numbers. Herzheimer's stain for fat showed numerous lipoid globules in the nerve cells, walls of the vessels and free in the substance. The congestion of the vessels was of a patchy distribution, more pronounced in the precentral and temporal regions. In the right postcentral region it was less pronounced but here the glial growth was more in evidence. There were accumulations of hypertrophied glia-cells resembling the pseudorosettes.

Corpora striata — (caudatus and putamen). The vessels were tremendously engorged and many had hyalinized walls. There was dilatation of the perivascular spaces and rarification of tissue around several vessels. Occasional perivascular round-cell infiltration noticed. Small hemorrhages around the small and medium-sized vessels were seen. Several ganglion cells appeared degenerated and were surrounded by satellites. The remainder of the cells appeared healthy.

Pallida — There was an appreciable decrease in the number of the large pallidal cells. The vessels were engorged and the walls of many were thickened, but no calcification was noticed.

Claustrum — Showed an active neuronophagia — 5–8 perineuronal cells surrounding and in some instances completely covering up the ganglion cell.

Island of Reil — Slight distention of vessels. Slight neuronophagia.

Thalami — There were large distended vessels with perivascular dilatation. Many cells were undergoing chromolytic changes and were in the state of neuronophagia surrounded and covered up by 5–12 perineuronal satellites.

Gray substance around the third ventricle. Most of the cells were healthy, but some were pale, chromolytic and had lost their nuclei.

Nucleus of the oculomotor nerve — Chromolytic changes in many cells, the others appeared negative.

Red nucleus — No noteworthy changes.

Substantia nigra — Both sides showed a preservation of only a few pigmented cells, the majority having disappeared. There was much pigment lying free. The fibrous neuroglia was thickened and greatly increased. The vessles were dilated and had much round celled perivascular infiltration.

Nuclei pontis — show no noteworthy changes.

Medulla oblongata. — Fibrous hyperplasia of the pia, engorgement of its vessels, small and medium sized.

Cerebellum. — Purkinje's cells looked pale — very little changes in the granular layers.

Cord — Ganglion cells of the anterior horns of the cervical region stained deeply. Several of them showed chromatolytic changes. The vessels were engorged, and distended, but showed no perivascular infiltration. Pial vessels were engorged.

Myelin sheath stain — showed much "beading" in the postcentral regions, no change elsewhere.

These two cases of long duration have several noteworthy features. The first case presents histologically the blood stasis in the small and medium sized vessels and only discrete perivascular infiltration and moderate neuronophagia in the deeper layers of the cortex. It is important to note that, although both substantiae nigrae show the disappearance of the pigmented cells, the right substantia nigra has a more pronounced loss of the cells, than the left. At the same time, the left globus pallidus shows minimal changes, while the right globus pallidus shows a pronounced neuronophagia, numerous rod cells, and lipoid pigment. It has been shown that the axons of the cells of the substantia nigra end in the lenticular nucleus and this may account for the more pronounced changes in the globus pallidus on the same side where the substantia nigra was more affected. The cortex did not present any changes beyond the dilatation of the vessels, with occasional discrete perivascular infiltration, and very moderate neuronophagia in the deeper layers of the cortex. These are the changes usually found in the chronic encephalitis. This patient was clear mentally, and outside of the periodical outbursts of excitement, was cooperative and had an insight into his condition.

The second case of eleven years duration showed that the virus continued to be virulent and to produce the changes which are usually found in an acute state of of encephalitis; — tremendous congestion of the small and medium sized vessels, with perivascular infiltration, heavy "cuffiings" of most of the vessels, and perivascular hemorrhages. This acute inflammatory process was mostly pronounced in the cortex, where the changes in the nerve cells were also prominent.

The enormous increase of the protoplasmic glia was striking, especially in the right post frontal region. In this region the myelin sheath stain showed much "beading".

The substantia nigra showed disappearance of most of its cells. This patient's hospitalization lasted five days. She came in with a high temperature and with clinical signs of bronchopneumonia. It seems that although she answered no questions asked by physicians, she occasionally could make a "relevant" answer. There were changes both of chronic and acute character in the brain, the acute chages being most pronounced in the cortex and corpora striata (caudatus and putamen). Although the patient had bronchopneumonia, it does not seem possible that it could account for the changes characteristic of acute epidemic encephalitis. The histological changes found in the second case were much more pronounced than in the first. The chronic changes, which in an irregular patchy manner involved all the regions of the brain, including the frontal, may account for the confusion and for the passive and inert mental state of the patient.

It is interesting to notice that, although this patient was pregnant when ill with encephalitis, she was delivered of a normal child, and it is living and healthy.

Conclusions

1. The virus of the epidemic encephalitis is active and produced acute lesion 11 years after onset.

2. The changes in this case were very severe in the cortex of the brain.

3. Pregnancy was not interrupted by the disease and there was no transmissio of the disease to the child.

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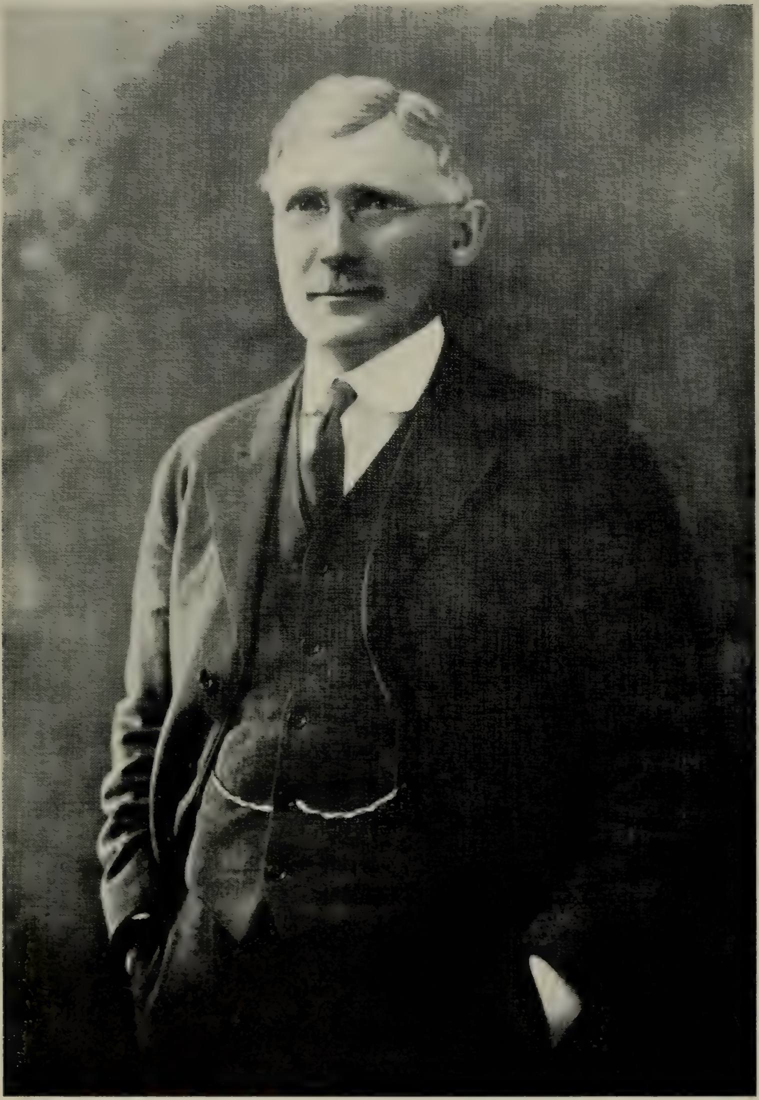

GEORGE L. WALLACE, M. D.
Superintendent Wrentham State School 1907–1930

WALLACE MEMORIAL NUMBER
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GEORGE M. KLINE, M.D.
DOUGLAS A. THOM, M.D.

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GEORGE L. WALLACE MEMORIAL NUMBER

FOREWORD

Among the outstanding institutions which minister to the welfare of children one of the most prominent is the Wrentham State School. Developed and built under the guidance and inspiration of Dr. George L. Wallace, this institution has become the Mecca of those, both in this country and abroad, who seek the best in the training and education of mental defectives. So eminent was Dr. Wallace in this field indeed, that several States officially sought his advice in developing their programs for the care of the mentally defective. Through Dr. Wallace the Commonwealth has rendered service, not only to its own citizens, but to those of other States, and as a small token of appreciation of the task he accomplished, the Department of Mental Diseases is proud to dedicate this volume to the memory of this unselfish and devoted public servant.

GEORGE M. KLINE,
Commissioner.

GEORGE L. WALLACE, M. D.

By HERBERT C. PARSONS[1]

Former Secretary of Trustees, Wrentham State School

(Trustee 1906–1932)

Dr. Fernald had been but two years on the ground at Waltham, to which he had transplanted the first American school for the feeble-minded, when he received a visit of unsuspected significance. The visitor was an applicant for work. He was sturdy, bronzed of face, quick of speech, with a burr on it that confirmed his statement that he was Scotch, and out of one of those transplanted bits of Scotland in the Canadian Provinces. He brought no professional equipment. He could have briefly answered the question, if it had been asked, as to his education. All that was beside the mark, did not enter into the conversation; he wanted work and he wanted it there, for he admitted that he had come straight there, with an interest in an institution of the kind he had heard this was.

There is a tradition that Dr. Fernald refused to employ this young man and did no more than make note of his name, George L. Wallace. It is one of those biographical items best left in the legendary field. To explode it, as probably would be done by too close inquiry, would be to ruin a sequence that carries every mark of being characteristic as to both the men. It runs that the young emigré wandered out on the rough grounds that were being reduced to service and good order, found a group of workmen, watched them, made a comment or two on the way of such work, picked up a tool, good naturedly set them a pace, stayed with them, was later found by the doctor-superintendent, in virtual charge of the gang, without authority and without pay and was taken on. Truth or fiction, it will do very well as the way of Wallace's entrance into the field where he was to labor the rest of his days and win both practical and professional distinction.

There were fifteen years at Waverley, as the Massachusetts School for the Feeble-minded was popularly known. They were years of thorough grounding in the physical, the institutional, and the educational features of a new enterprise of human service and in the philosophy of Fernald, the pioneer, which was to become the gospel of public care of mental defectives and its related policies. For Wallace the years brought rapidly into development the innate capacities of a genius for a service that demands mastery of practical affairs, — the "prudentials," to use an old New England word, — personal sympathies, expanding in ratio to the need of them in their object, outlook from the task in hand to the sweep of its social meanings, keenness in examination of every claim to new discovery and readiness to its appropriation, along with contribution to the world's knowledge out of one's own alert and poised experimentation.

He grew apace. His confidence in himself, a balanced and self-critical one, moved in company with his chief's confidence in him toward a mutual reliance. The need was now of professional acquirement and this he gained by application to medical study, gaining his degree from the Baltimore Medical School. During his course there, he returned each summer to Waverley, where he was still rated a farmer. Professionally equipped, he was placed on the medical staff and, after a year, made assistant superintendent, thus to become the main reliance of Fernald in a partnership which was yet more a companionship. These years brought him another alliance which was henceforth to be constant reinforcement and understanding sympathy, his marriage to Sarah J. Foster, a teacher at the School, fitted as she was in personality and training for an ideal union with a man of destined achievement. Here their son was born and given his father's full name.

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[1] Former Commissioner of Probation.

Massachusetts was ready for a second school for the feeble-minded in 1906. It was so not only because the one at Waverley had grown to the bounds of its site and to the population which was considered a reasonable limit but because the public mind of the state had come to a sense of the problem, largely through the teaching of Fernald and the Waverley demonstration. Moreover, the state had a socially-minded governor in Curits Guild, Jr. Facing the responsibility of selecting a superintendent, the new board of trustees, acting on the recommendation of its committee, of which Dr. Walter Channing was chairman, readily chose Dr. Wallace, the unmistakably outstanding man, for the place. The trustees had meanwhile chosen as the site for the school a tract of 492 acres of contiguous farms in Wrentham, 25 miles southwest of Boston.

In 1907, Dr. Wallace began the reduction of the land to fitness for the institution and the construction of its first buildings. At the outset the ultimate institution was plotted and planned and the present one is its fulfilment, with only the addition of features that new ideas demanded and these fitting into the scheme without hurt to its physical symmetry. One of the farm houses became the superintendent's home and with consistent alterations is now a model of country residence, free from institutional suggestion. Another housed a transferred group of 25 boys, keen for the work of making ground ready.

From thence on, Wallace and Wrentham were interchangeable words. He lived for the school and the school reflected him. Institutional master as he was, he was thoroughly non-institutional. Knowing the value of bricks and stones and directing to the last point of keen practicality their placing, sensing the possible use of every foot of soil and making it give account, with expert judgment on the worth of farm animals and exacting a score from them, all these pragmatic insistencies were charted to one goal, — the handicapped child they were to serve.

The school grew with every year without outgrowing his personal contact with every integer, physical or human. The children knew him, greeted him at every turn, felt him their own best friend. Their culture, where training could grow upon care, was his personal concern. The medical staff, the enlarging corps of attendants and their supervisors, the farm and the shop directors were his co-workers. It was all a community and a nearer approach to a democracy than institutions had been dreamed possibly to be. The record is of the creation of a farm group, with honor significance, physically apart but not detached, of the removal of stock barns and dairy to a distance but not remote, of the school house and equipment in replica of the New England grade school, of the industries brought out of basements into competent buildings, of an auditorium as a centre of continuous life and joy, of a gymnasium with maximum equipment and minimum restraint, of a hospital with every adjunct for care and treatment, of a store service and building on exacting system and at the end two features that demand a separate note because they were achievements of fresh advance.

The visitor to Wrentham as it was when Wallace left it is captivated by the group, better termed a village, of nursery buildings. These one-story homes for the smaller children, each with its features of the home nursery expanded to the uses and needs and joys of the fifty-six who live in each of them, were the realization of one of those Wallace dreams which had a certainty of coming true. He saw one of these houses fully in use and others on their way. Alike in advance stands the clinical building, anticipated in his repeated assertion that such a school should be the seat of research into the social as well as medical significancies of feeble-mindedness. He lived to see the structure but was denied the sharing in its operation and the organization of its facilities. It stands a monument to his vision, destined in time to be a distinctive one, as the whole school is a monument to his equi-sided genius and humanly devoted enterprise.

Wallace long since expanded from an institutional director to an institutional authority. His school became the world's model. He was called by the governors of state after state to advise and actually to locate and plan their schools. He was given the highest honor and executive responsibility in the high craft of institutional superintendents, the presidency of the American Association for the Study of the Feeble-minded being at two periods conferred upon him. He conducted with added distinction a division of the International Mental Hygiene Conference at Washington, D. C., in 1930. He was in his last several years a member of the executive committee of the National Committee for Mental Hygiene. He was in constant demand in professional assemblies as a speaker and his published papers are a recognized contribution to advanced thought in psychiatry and psychology.

An intensely active life ended in the midst of its highest productiveness. Long conscious of a cardiac trouble, rarely mentioned though it was and seemingly never allowed to abate his action, he died on July 3, 1930, as he lay in an afternoon sleep, to which he had been ordered in what seemed to be a passing physical depression.

In biographical summary, George Loney Wallace was born at West Gore, Nova Scotia, February 5, 1872, went to the Massachusetts School for the Feeble-minded in 1892, became assistant superintendent in 1899, superintendent of the Wrentham State School in 1906, died July 3, 1930.

RESOLUTIONS ADOPTED BY THE MASSACHUSETTS DEPARTMENT OF MENTAL DISEASES

Whereas, death has taken Dr. George L. Wallace, beloved Superintendent of the Wrentham State School, and

Whereas Dr. Wallace, former assistant superintendent of the Massachusetts School for the Feeble-minded was in 1907 appointed Superintendent of the Wrentham State School — the erecton and development of which under his supervision have made it preeminent among institutions of its kind — and the subject of visits by many persons from other states and countries, and

Whereas, Dr. Wallace was also called upon several times to assist in the problems of other states, be it

Resolved, that the Commissioners of the Department of Mental Diseases have long recognized in Dr. Wallace the ideal Superintendent and friend. Through his progressiveness, his real humanness, his true modesty, and kindly understanding, he has left the abiding impress of his character on the school and on his work. Be it further

Resolved, that the Department acknowledges his great service to the Commonwealth, and that these resolutions be spread upon the records and a copy thereof sent to the family of Dr. Wallace.

AIRPLANE VIEW OF WRENTHAM STATE SCHOOL

TESTIMONIAL OF THE SUPERINTENDENTS OF STATE HOSPITALS UNDER DEPARTMENT OF MENTAL DISEASES

To Mrs. George Loney Wallace and the Members of his family:

The passing of Dr. George Loney Wallace to you was an inexpressible loss. A devoted husband, a loving father, a living, joyous spirit was taken. We mourn and sorrow with you in your great bereavement.

One has departed whose relationship to us was closer than that of an associate or even a friend. There was a feeling of brotherly kinship.

He was a great man measured by the standard of good deeds and work accomplished, but his real worth was measured by the fullness and grandure of his soul.

A leader, a director, a teacher, he was an inspirer of all that is regarded as best in mankind.

Instinctively friendly, brotherly, cheerful and happy, he was an ideal. Lovable, he loved all others. He cheered the downcast and brought joy to all whom he met.

He was one of those rare personages met with only occasionally in the history of civilization who appearing brilliantly on the horizon, evolve a new philosophy, create new things and fulfill an apparent destiny.

Most of us are passers by. He was a leader.

The annals of achievement in the field of human welfare will glorify him.

A wonderful soul has passed along spreading kindness as he went, and leaving an abundance of good works.

"And when the stream
Which overflowed the soul was passed away
A consciousness remained that it had left
Deposited upon the silent shore of memory,
Images and previous thoughts
That shall not die, and cannot be destroyed."

TESTIMONIAL OF THE TRUSTEES OF WRENTHAM STATE SCHOOL ON THE DEATH OF GEORGE L. WALLACE

At the meeting of the Trustees of the Wrentham State School on Thursday July 10, 1930, the Chairman, Mr. Albert L. Howard, officially announced the death of Dr. George L. Wallace, the Superintendent, which occurred at 5 P. M., Thursday, July 3. The following action was then taken and it was

Voted to spread this vote of recognition on the records of the trustees and to have a copy sent to Mrs. Wallace:

Assembled at the school, whose every feature bears the mark of the genius and devotion of George L. Wallace, the trustees of the Wrentham State School hereby place on record their recognition of his services and of his worth. They do so with keen realization that adequate measure of the loss to the school, to the Commonwealth, and to the world, by the death of Dr. Wallace is not to be reached by any expression they may now give to their deep esteem and affection for him, nor in any record of his official service.

Dr. Wallace was chosen by the trustees to be the superintendent of the new school for the feeble-minded in 1907, unanimously and without doubt that he was the man distinctly fitted for the place. He was then thirty-four years old and had been thirteen years connected with the Massachusetts School for the Feeble-minded. He began there in a subordinate position and having gained a medical education and degree at the Harvard Medical School, had risen to become the main reliance of Dr. Fernald as the assistant superintendent. He had mastered every phase of the institutional care, treatment and training of the mentally deficient.

When he came to the superintendency of the new school, there opened the opportunity to take the responsible leadership in the planning of an institution with a clear conception of its ultimate size and form. The nearly five hundred acres of land which had been taken by the Commonwealth was open to him as the ground upon which the design could be worked out in perfect accord with the vision of its completion so nearly in the future as as might be consistent with a well ordered growth. The school as he last saw it was the realization of his dream, the product of his unremitting devotion to its development, the subjection of brick and stone and wood to his purpose of helpful service to human lives and to the social order. It is his monument.

In all the years, the relations of the trustees and Dr. Wallace had been in unbroken harmony and co-operation. The Board has changed in personnel but gradually and three of its present members were of the original appointment. We are thus enabled to bear personal testimony to the sustained, unflagging and buoyant service of Dr. Wallace, his growth in the esteem of his profession as an authority, his attainment of acknowledged premiership in the field of institutional care of the feeble-minded and his development as a leading guide dealing with the social and economic problems raised by the presence of mental defect in the community. Most deeply, we can and do bear testimony to the faithfulness, the industry, the high ideals, the practical judgment and the radiant personality of the man with whom our association has been mutually happy.

The trustees recognize in the deepest sympathy the bereavement of Mrs. Wallace, whose partnership in the service of her husband through the years has been a fine example of wifely devotion and a priceless contribution to his success and to the benefits that have come to the world from his work. The trustees would extend to her both their sympathy in her deep sorrow and their appreciation of the companionship and the unison in interest and work which have made her association with the school a rich contribution to its usefulness and its success.

A STATE MENTAL HYGIENE PROGRAM

By George L. Wallace, M.D.
Superintendent, Wrentham State School, 1907–1930

(Prepared at the request of the National Committee for Mental Hygiene for the Governor of California and read at a Conference of the Governor with the Social Workers at San Francisco March 24, 1928.

In the field of general medicine, until within recent years, the activities of the physician were directed almost entirely toward the restoration to health of the sick members of the community. The community considered its duty performed when it summoned the physician to the bedside of the sick. Today, however, it is very different and, while the physician is still interested in ministering to the sick, yet all physicians are more concerned in the prevention of disease, while large numbers in their profession devote their entire activities to the field of preventive medicine. So thoroughly informed has the community become in matters pertaining to general health, that in many localities it is considered a disgrace to be afflicted with preventive diseases that a few years ago were accepted with complacency.

Preventive medicine today has a solid, united organization on every front and goes far in preserving the health of the nation.. The federal department of health carefully inspects the food supply of the nation and has its sentinels stationed at our ports, who are ever alert to see that disease does not gain an entrance through these avenues. Our state departments of health supervise the great water systems of the various cities and towns as well as the milk supply of the people. They also constantly guard against the invasion of contagious disease by manufacturing and dispersing various vaccines and anti toxins. Through the combined activities of the state boards and local boards of health, a compaign of education is pursued that is enlightening the general public on matters pertaining to health.

We have witnessed the advent of the district health officer, the school physician, school nurse and district nurse with as little complaining as could be expected. Large bequests have been organized into foundations for the purpose of studying diseases with the hope of eradicating them. Baby clinics have grown up among us where mothers may receive expert advice on the physical care of their babies. We have even gone to meet these little strangers on their nine months journey, in the establishment of the prenatal clinics where prospective mothers may receive expert advice.

Before the concerted action of all these forces in the interests of the preservation of health, the ravages of many of the dread diseases are being continually narrowed. Hookworm, typhoid, diphtheria, scarlet fever and even the great white plague are being yearly pushed farther into the background in their importance as menaces to the health of the people.

With all this interest in public health matters the activities are still almost entirely confined to the field of physical health. As yet, scant attention has been directed to the great problem of mental health. It is impossible for the people to enjoy good general health while one-half of the health field remains in obscurity.

In a health program the problem of mental health should receive equal recognition with the problem of physical health. If an individual is mentally ill, no matter how strong he may be physically, he does not possess good health. Even so with the community, so long as mental disease and mental defect does not receive proper recognition and while such large numbers of our people are ill and incapacitated with these diseases, the community does not enjoy good health; it is a sick community. The mental health of the people commands equal attention with their physical health. No nation, state or community can continue to prosper that disregards the mental disorders of the people and fails to take the proper steps to promote good mental health.

Today in this country there are confined in institutions for mental treatment more than 300,000 people. There are probably more than twice that number in the community, outside of institutions, who are incapacitated and invalided on account of mental and nervous disorders. The value of the institutional property in this country for housing mental cases is estimated at approximately $300,000,000.00. It costs annually $150,000,000 — to support our institutions for nervous and mental diseases. This does not represent the whole financial cost, either. Add to this the combined value of the earning capacity of these patients in the institutions and also the earning capacity of the invalids in the community caused by mental disorders, together with the earning capacity of the army of employees required to care for these sick people, all of whose productive energies the community is deprived. This makes a financial sum that is bewildering. Gigantic as is the financial cost, it is insignificant when compared with the sacrifice of that which cannot be valued on any monetary basis — that which is priceless — human happiness.

When we consider the disappointments, misery, proverty and human suffering that is due to mental ill health, the money cost, colossal as it is, dwarfs into insignificance. It is estimated that in the adult population throughout this country, one death in every 26 takes place in a mental institution and that 1 adult out of every 13 of the population will be, at some time, a patient in a mental hospital. In Massachusetts there are more beds in mental hospitals than in all the medical hospitals combined. In Massachusetts 1 death in every 20 is occurring in a mental hospital. Is not this record sufficiently serious to arouse the interest of all those to whom is entrusted the mental health of the community, and should there not be established in every state a mental health program that will guarantee the reduction of mental illness in the community?

In physical disease as in mental disease, many conditions occurring in childhood and early adolescence, unless corrected, result in serious illnesses in later life. The abnormal conditions in the mental life of children and adolescents, however, is confined so largely to the emotional life that they may pass unrecognized by those who are not trained in abnormal mental and nervous conditions. These injuries to the emotional life of the child may become, apparently, healed but often leave unrecognized scars that, while sufficiently strong to withstand the ordinary hardships of life, are wholly inadequate for meeting unusual stress. Under extraordinary pressure the old scar becomes inflamed and thus may become the starting point for a serious mental break-down. Usually these serious injuries to the emotional life of the child are wholly unrecognized at the time and too often are first noticed by the condition presented by the patient in the admitting ward of a mental hospital many years later. Some of these traumas to the emotional lives of children and adolescents may be received as fears, temper fits, jealousies, keen disappointments, inability to compete with their fellows, slight truancies, abnormal romancing in an attempt to conceal unfortunate sex experience and in many other major and minor situations in which the child's emotional life may be in conflict. Today, throughout the country, there are many children whose emotional lives are receiving just such injuries as I have described. The majority, however, pass through these experiences and the scars become fairly well obliterated and no serious, lasting ill effects result, but many children with highly sensitive emotional natures are receiving injuries that, in all probability, will produce serious mental or nervous disorders in later life.

Compulsory education is an accepted requirement of modern civilization. Therefore, all children pass through the school system. These children are the adults of the next generation. The school is, therefore, the convenient and logical place in which to study the children as well as the place for the children to study. A community that considers a school a place only for children to study and gain knowledge, is but a half enlightened community. Until the school is also used as a laboratory for studying the children and meeting the special needs of the children, that community's educational sphere is one-half in eclipse, and out of the darkened hemisphere will emerge the mental and nervous disorders of the future.

The greatest asset a community, state or nation can possess is a healthy population. This truism is well recognized by all when considering physical health. This is readily seen by the vast sums of money that are being spent annually to insure communities with good physical health. Those suffering from mental ill health, however, are just as ill as those suffering from physical ill health. Why the difference in the attitude of the public concerning these two forms of sickness? It is, that treatment of physical disease has been wholly stripped of superstition by science in the well-worked out programs for the prevention of diseases. Unfortunately, the public is still woefully ignorant concerning the problem of mental diseases and, consequently, superstition still persists as an active barrier against successfully attacking this problem. Every organ in the body is made up of cells and intercelular substance. The brain and nervous system are no exception in this respect. Therefore, why should not the brain and nervous system be subject to derangement the same as any other organ of the body. There is nothing more mysterious in a person being inflicted with a mental disease than in being ill of typhoid fever and, as has been said, it is not nearly so disgraceful, inasmuch as typhoid fever has been placed in the field of preventive diseases.

Every state, in order to successfully combat this great problem of mental ill health, should have two distinct organizations operating independently yet conjointly.

First, — a state mental hygiene society operating independently of any state government control or direction. It should be dependent financially upon public-spirited citizens who are solicitous for the improvement of the mental health of the community. The work to be done by this organization should not be definitely specified or permitted to crystallize; it should be kept fluid. It should be interested and deeply alive to all lines of activity directed towards the promotion of better mental health, educating the public, blazing the trail, carrying on experimental work, demonstrating to the public what can actually be done for the betterment of mental health; scouts as it were, preparing the ground for the various communities and the state so they can move up and occupy in force what the mental hygiene society has reconnoitered. Above all, the mental hygiene society should be an educational organization.

Second, — the state government on the other hand should have a well-defined, concrete program for the advancement of mental health, and should operate through its department of mental diseases or board or body, to which is entrusted the mental health of the people. This department should initiate and consolidate a state-wide program backed by necessary legislation that would insure the most advanced treatment for those who are already mentally ill and should also bring into operation all known means for the prevention of mental ill health.

It is necessary that modern, up-to-date hospitals and sanatoriums should be equipped with every known scientific device and should be staffed with a skillful corp of well-trained physicians, nurses and social workers for the treatment of physical diseases. It is equally necessary that psychopathic units and mental hospitals should be well equipped with scientific devices and apparatus and be staffed with physicians, nurses and social workers and occupational therapists who have been scientifically trained in the treatment of mental diseases. The state department, through its mental hospitals should organize a chain of clinics throughout the state, and located in all large centres so the people may receive expert advice on matters pertaining to mental disorders and not be obliged to visit a mental hospital. This department, having to do with the mental health of the state, should be so organized and provided with personnel that it may function by cooperating in constructive work with other state departments. The expert knowledge of this department should be made available to the whole state. There should be organized in conjunction with the state board of education, psychiatric school clinics for the examination of children in the public schools who are retarded in their school grades. Every school in the state should have the benefit of such a clinic. It should also cooperate with the state department of correction by organizing a system whereby all prisoners who are committed for any length of time should have a psychiatric examination. At the present time there is very little exact information regarding the mental condition of the prison population. 'Tis true there have been, from time to time, independent surveys made of individual prisons by different investigators, with widely varying results. A state wide program, however, in which scientific inquiry could be made into the mental life of a prison population, carried over a period of years would, no doubt, be the basis upon which an improved penology would be constructed. No program for the betterment of mental health can be considered complete without thorough consideration being given to the problem of mental deficiency.

It is variously estimated that in Massachusetts there are somewhere between 50,000 and 100,000 people whose mental measurement would classify them as feeble-minded. And what is true regarding the proportionate number of feeble-minded to the general population in Massachusetts is probably true, with slight variations, of every state in the union. There is no question but that feeble-mindedness constitutes a deadening burden for society to carry, considered not only from the financial standpoint but also from the social viewpoint. Many of the recidivists in the courts, a noticeable percentage of the prison population and probably most of the petty thieves can be accounted for in this class. Feeble-mindedness contributes in a great degree to the problem of illegitimacy as shown by the survey conducted by the National Child Welfare Bureau. The work of the societies for the prevention of cruelty to children is tied up directly and indirectly to a large extent with feeble-mindedness. From this class also are recruited deserters of all kinds: those from the army, almost entirely; fathers from families, partially; mothers from families, probably all.

The problem of dependent children is, to a large extent, one of dealing with the feeble-minded because if accidents and great calamities are excluded, it is very seldom that children in whose blood is coursing the germ plasm of worthy ancestors and relatives are so unfortunate as not to have a brother, sister, aunt or uncle, or some relative to assist them in their time of need. Hereditary pauperism, that is, where generation after generation in the same family is supported at public expense, is entirely a problem of mental deficiency. All the feeble-minded, however, are not factors in these great social problems. It is, therefore, important that a constructive program should be devised, such as will prevent so many feeble-minded children from becoming problems in adult life. The largest number of the feeble-minded are leading honest, industrious lives and making a real contribution to society in the type and kind of work that they perform. If all the feeble-minded were social problems a situation almost hopeless would be confronted. Fortunately, however, it is a relatively small number of the feeble-minded that present themselves as social problems. It is the socially ill-adjusted feeble-minded who are the problems for society to deal with. Everyone of these adult, feeble-minded problems should have been recognized when they were children in school and, no doubt, many of them managed in such a way as to prevent their becoming social liabilities. We have today in every school throughout the country feeble-minded children and unless they are properly cared for and receive the training they require many of them are going to become serious problems for society to deal with in the near future. The most effective way to meet this condition is to have children who are retarded in their school classes examined by psychiatrists. In Massachusetts and New York there is a law that requires all children who are three or more years retarded in their school grades to be examined by a competent psychiatrist and when ten or more are found in a school district who are retarded on account of mental defect, the school authorities shall establish special classes for their education. The part of the law dealing with the examination is carried out in Massachusetts by travelling clinics organized by the Department of Mental Diseases. The personnel of the clinic consists of a psychiatrist, psychologist and social worker. In this way a permanent record of the child's mental condition is obtained and filed with the proper state authorities and this information is ready to be used any time that may be necessary during the individual's life time. By this method, a census of the feeble-minded is also being gradually obtained. The school authorities who are in possession of the diagnosis are in a position to provide a system of education for these children that will meet their mental limitations. The academic work should be carried to a point that corresponds with their mental age. No more required, because it cannot be obtained; no less required because these children have a right to an academic education corresponding to their mental age. There is little doubt that many feeble-minded children are being driven into delinquency by the requirements for scholastic standing that is impossible of their attainment. It is little wonder that a feeble-minded child becomes a truant from a place where he is ridiculed by his classmates and where he is unhappy, or, because of his poor judgment, attempts to compensate for his feelings of inferority by performing some spectacular or anti-social act. In a system for the proper education and care of the feeble-minded, the special classes in connection with the public schools are not sufficient; the state schools for the feeble-minded are of great importance. There are many feeble-minded children even with good homes who, on account of disturbed emotional natures, very much need, in order to attain their best development, the 24-hour a day supervision of an institution for a period of years. Then there is the low-grade group of feeble-minded children who can only be properly cared for and trained in an institution. There is also the high grade group with profound emotional disturbances which, especially in the females, who on account of their inability to control their sex lives, make it impossible to safely care for them outside of an institution.

A state school, in order to meet the conditions imposed upon it, must be organized as a thorough-going educational institution humming with both academic and industrial activities. An institution for the feeble-minded, without a comparatively large expenditure of money in the school department, must, eventually, become an institution of a type of 2nd grade almshouse, for it is impossible to give feeble-minded children even the proper physical care without educating them.

At an early age the defective delinquent should be recognized and removed from the special classes and state schools and provision made for them by segregating them in special institutions. Society demands that normal children be protected from associating with criminals. Surely our sense of justice and fair play should demand that feeble-minded children be protected from the baneful influence of this criminal class.

All pupils graduating from the special classes and state schools should be reported to the central authority or institution or wherever the authority is vested for the supervision of the feeble-minded. This authority should have, as an integral and very important part of its organization, a social service department trained in the problem of feeble-mindedness. The social service department should have at its head a director whose duties should be to coordinate and direct all social service activities in connection with the special classes of the public schools and the state schools. To the social service department should be referred the list of the graduates of both the special classes and the state schools. The workers should have close contact at all times with both the state schools and the special classes and thus become well acquainted with the prospective graduates from these schools. This school work should be required as a part of the worker's special training. The social service department should maintain a vocational bureau to assist pupils in securing employment after graduation and, through the workers, visit the graduates in their homes as well as at their work and carry to them the encouragement and protection they need. During their school life the social service department has come in daily contact with these graduates for a period of ten or twelve years. Also, it has had access to their life histories. Therefore, this department is familiar with their strong points as well as their weak ones and can well gauge their abilities and weaknesses and is well able to lend a hand.

With this plan in operation, supervision over these known individuals when giving evidence of becoming anti-social, may be increased. If this is not sufficient to insure proper behavior (because it is a matter of record that from early childhood they have been mentally defective) they may be easily committed to an institution.

This plan, like so many plans for social betterment, may receive opposition on account of expense. The answer is the question, would it not be infinitely more economical than the present wasteful method of squandering money in the attempt of trying to meet each separate condition due to feeble-mindedness as it presents itself? It seems to me that the sum would be insignificant as compared with the combined sums that are now being spent on the problem of feeble-mindedness in the prisons, almshouses, departments of charity, associated charities, societies for the prevention of cruelty to children, for the treatment of venereal diseases and for invalidism due to venereal diseases spread by the feeble-minded. Society is paying the bills anyway, both financial and otherwise. If it were an equal financial sum expended how much more enlightened society would be to have it spent in education and prevention.

In order to successfully combat this great problem of mental ill health and mental defect, every state should have a well-rounded out mental hygiene program. In constructing such a program a vision of the whole field is essential. It must be a scientifically constructed bridge with every section closely correlated, in fact, a chain consisting of several links, closely welded and of equal tensile strength. No one link of the chain or one section of the bridge, no matter how important in itself, will be sufficient for the work to be accomplished.

TO SUMMARIZE. — Every state, in order to successfully combat this problem of nervous and mental disorders and mental defect, should have —

1. A mental hygiene society to function independently of the state government. It should act as an expert body on the problem of mental health and should be in a position to give constructive advice to the state government on all matters pertaining to mental health.
2. The state should make adequate institutional provision in the way of first-class hospitals for the mentally sick and 1st class educational schools for the feeble-minded who require institutional treatment.
3. The state should establish one or more psychopathic hospitals in the largest cities where both acute and incipient cases can be observed, studied, diagnosed and treatment prescribed.
4. The state should provide mental clinics in all large centers, where the people may receive expert advice concerning mental disorders without being obliged to visit a mental hospital for this purpose.
5. The state departments should be so organized that the expert knowledge in possession of the Department of Mental Diseases be made available in a practical way to the other state departments.
6. School clinics should be established for the examination of all children who are 3 years or more retarded in the grades of the public schools.
7. There should be established a state wide social service to function in connection with the special classes of the public schools and state schools, so as to give the graduates of these schools the supervision they require and extend supervision to all unsupervised feeble-minded in the community, requiring supervision.

This is a recital of the mental hygiene program that obtains at the present time in Massachusetts and New York and is but a report of progress in the field of mental hygiene. It in no way pretends to be complete or final but is simply a report of advancement in the field of mental health.

This program has been many years in the building and has been forwarded as a result of many piecemeal and fragmentary surveys of social conditions in the eastern states. Many obstacles have been overcome, many traditions and precedents have been overthrown. Many experiments have been tried and abandoned by these states in their efforts to establish a consistent and progressive program for improving and perserving the mental health of the people.

In the important matter of organizing mental hygiene, California, today, is working in almost a virgin field. She is not hampered by precedent, neither is she in a position where she will have to discard sacred traditions but she is definitely hampered by not knowing what the problems are or the size of the problems that are confronting her in this field. This information can be obtained only by a state-wide mental hygiene survey. When in possession of full information furnished by such a survey, California would be in a position to initiate a state-wide mental hygiene program so progressive and luminary in its qualities that social enlightenment will be reversed in the traverse of its orbit and thereafter its rays will be projected from the west to the east and the mental hygiene program in California will be a model for other states to copy.

DR. WALLACE'S CONTRIBUTION TO THE MENTAL HYGIENE MOVEMENT

By George K. Pratt, M. D.
Associate Medical Officer, National Committee for Mental Hygiene

It takes a truly great man to weld humanism to science, and the real measure of Dr. Wallace's greatness can best be judged from his success in this task. To him certainly, as much as to any other person, does the world owe whatever enlightened conception it may possess of the mental defective as a living, throbbing human being, struggling for adjustment in a hostile environment. Dr. Wallace it was who hammered unceasingly at the fact that the feeble-minded have feelings capable of being hurt; that they are as subject to the laws of mental hygiene as the non-feeble-minded; and that their behavior is a response to the same emotions that beset the rest of us.

When he first came upon the field the extension of the mental hygiene point of view to the feeble-minded had lagged seriously behind progress made in dealing with persons of average intelligence. The so-called new or dynamic psychology of a quarter century ago had stimulated a revolt against that sterile academic psychology which failed to give man a practical understanding of his behavior, and out of the new concepts developed there gradually emerged a knowledge of mental mechanisms and basic principles which brought an accurate interpretation of human conduct much closer to realization.

But while the concepts of this dynamic psychology enabled scientists to envision man and his behavior in a more human and understanding fashion; and while it caused an overthrow of certain older theories regarding responsibility and the motivations behind misconduct its application continued for a long time to be limited to problems of psychopathology in which sub-average intelligence played but a meagre role.

It was at this point that Dr. Wallace, ever the able psychiatrist, began to bring to bear on traditional concepts of feeble-mindedness the views he had glimpsed from his training under Dr. Fernald at Waverley — views in which the socializing of the individual defective became paramount. To accomplish this he needed to challenge old attitudes and pose new questions. If feelings of inadequacy provoke persons of average intelligence to certain compensatory forms of behavior, he reasoned, is it not probable that mental defectives react in the same way? If intellectually average men and women frequently rationalize the motives for their conduct why should not the intellectually subnormal do the same thing? If repeated frustrations to a legitimate "will-to-power" or to a need for putting one's self across in life sometimes call forth unhealthy behavior in "normals", may not defectives respond likewise?

The answers to these questions are so obvious to-day it seems needless to discuss them, but it is to be remembered that when Dr. Wallace first directed his attention toward them the problems of the feeble-minded were just emerging from the fog of a century or more of misconception and scientific ignorance, most of the theories then extant being based on such typical representatives of the entire group of mental defectives as the Jukes and the Kallikaks.

It was his facility in thus perceiving the need for educating emotions as well as defective intellects that made possible, in large part, the success of the parole system as applied to institutions for mental defectives, and that also made him such a tower of strength to the mental hygiene movement. As a matter of fact, nothing could have been more timely and helpful to mental hygiene than the point of view he brought so energetically toward problems of feeble-mindedness. The field of mental deficiency in all its varied aspects had become, by 1920, an extremely important part of the whole mental hygiene program. Almost superhuman efforts were needed to overcome the obsolete traditions and practices that prevailed in most of the institutions for defectives and in those relatively few school systems and juvenile courts which had officially recognized the problem. What Davies calls "The Period of Eugenic Alarms" still had a lingering hold on much of the thinking of that day, but The National Committee for Mental Hygiene through its Division on Mental Deficiency was making strenuous efforts by means of surveys, the encouragement of research and other activities to improve conditions throughout the country. Into this situation in 1924 came Dr. Wallace by virtue of his election to a position on the Board of Directors and also on the Executive Committee of The National Committee for Mental Hygiene. Here he was enabled to color numerous of the committee's policies and activities with his sensible point of view and to give of his experience in unstinted measure. As a result, although lack of funds made it necessary a few years later for the National Committee to discontinue the work of its Division on Mental Deficiency, its influence under Dr. Wallace's stimulus lives on.

Today that portion of the mental hygiene movement dedicated to making a contribution toward the solution of problems in the field of mental deficiency perpetuates in mounting degree this pioneer's efforts to secure for them a humanitarian understanding. Tolerating no compromise with scientific knowledge it nevertheless is increasingly successful in forcing the community to adopt an enlightened attitude toward the individual defective, and to insure modern provisions for his education and training. In so doing the greatness of Dr. Wallace stands out in bold relief.

SOME ASPECTS OF THE DEFECTIVE DELINQUENT PROBLEM

By Winfred Overholser, M. D.
Assistant Commissioner
Massachusetts Department of Mental Diseases

It has long been recognized that a certain group of the mentally defective tend to exhibit, not infrequently to a marked degree, anti-social behavior which is not correctible by the ordinary methods if at all. General opinion as to the relative size of this group has been modified with the progress of time; originally, when the diagnosis of mental defect was far less accurate than at present, and when unusual behavior was one of the outstanding diagnostic features, it was thought that a large proportion of the mentally defective were "bad." Later, with the introduction of intelligence tests and the familiar criteria of today, and with the opportunity of earlier recognition, particularly among school children, it came to be realized that the proportion of persistently anti-social mental defectives is small, even though the individuals in this small group are strikingly and painfully conspicuous.

The unruly minority of whom we have spoken above are generally referred to as "defective delinquents". The term is perhaps in some ways open to criticism, especially as being a hybrid combination of legal and medical concepts. It is convenient, however, and has the sanction not only of usage but of legal recognition as expressed in the statutes.

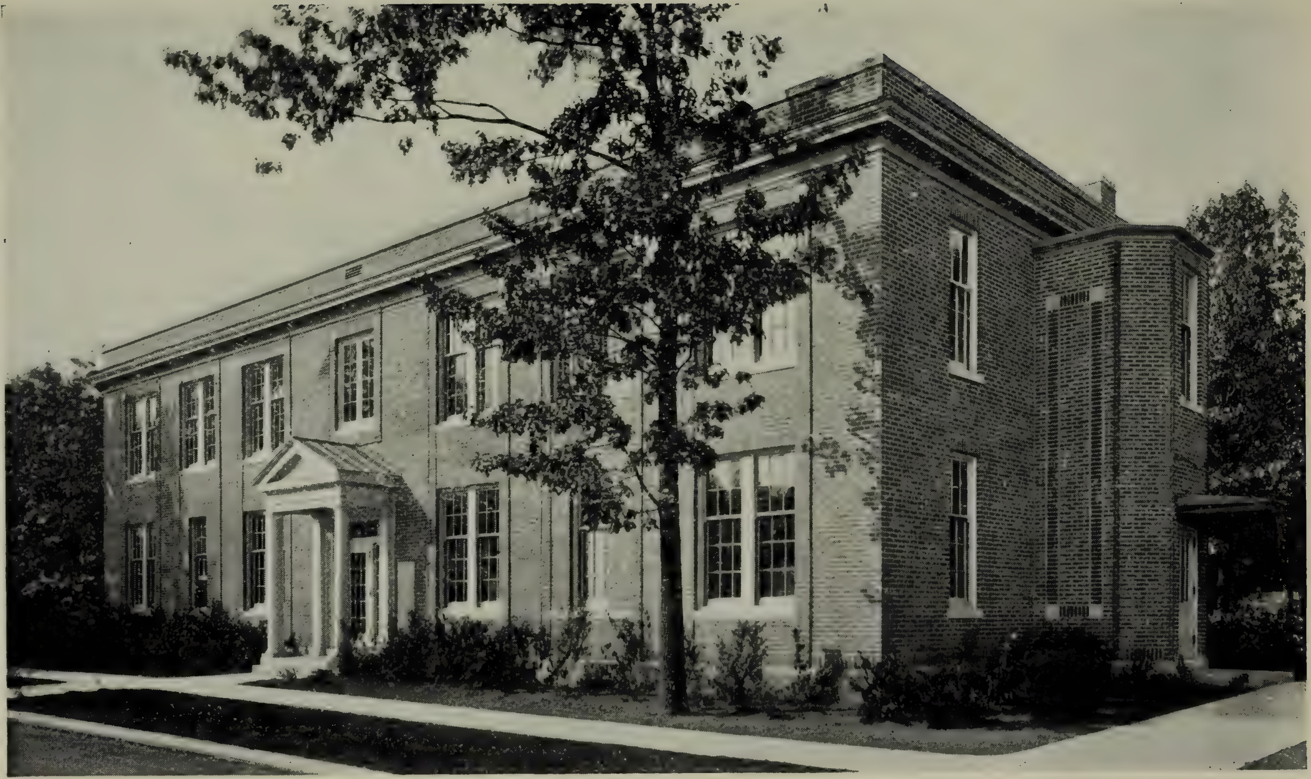
There probably is not a school for mental defectives in the country that has not had its difficulties with certain inmates who fall in this category. The late Dr. George L. Wallace, to whose memory this volume is dedicated, had ample opportunity during his training under Dr. Walter E. Fernald then Superintendent of the Waverley State School, to observe the destructive effort upon institution morale which was wrecked by a small number of marplots of this type. Soon after becoming Superintendent of the Wrentham State School in 1907 he found that that institution, too, was not immune. That he gave much thought to the problem is clearly discernible from his frequent references to it in his annual reports. He was early convinced that the most feasible solution lay in the establishment of a separate institution for the custody and training of defective delinquents, commitment to which should be indeterminate, as in the case of the state hospitals and state schools. He, together with Dr. Walter E. Fernald, was active in the campaign which culminated in the passage of the first defective delinquent law enacted by any American State (Mass. Acts of 1911, Ch. 595).

The action of the Massachusetts General Court in placing this law upon the statute-books was noteworthy. By this legislation, Massachusetts became the first State to recognize what may be termed "partial responsibility", that is, the fact that an offender, although not so defective mentally as to be deemed entirely lacking in "criminal responsibility", might at the same time be in need, by reason of his abnormal mental condition, of specialized correctional treatment. In addition, Massachusetts thus led in establishing a truly "indeterminate" period of confinement for offenders not found legally "insane". Again, the Legislature recognized, in the provision for committing as defective delinquents certain inmates of schools for the feeble-minded, the fact that these inmates, even when not technically convicted of an offense, might well be even more dangerous than a person who had violated the law. As a step in preventive legislation, this was indeed a striking advance.

For historical reasons, portions of the law relating to commitments as originally enacted should be quoted herewith (Acts 1911, Ch. 595, Sect. 1 and 4):

> "*Section 1.* If in any case where a court might by way of final disposition commit an offender to the state prison, the reformatory for women, or any jail or house of correction, or to the Massachusetts reformatory, the state farm, or to the industrial school for boys, the industrial school for girls, the Lyman School, any truant school, or the custody of the state board of charity, for an offence not punishable by death or imprisonment for life, it shall appear that the offender has committed the offence with which he is charged, is mentally defective, and is not a proper subject for the schools for the feeble-minded, or for commitment as an insane person, the court may commit such offender to a department for defective delinquents, hereinafter established, according to the age and sex of the defendant as hereinafter provided."
>
> "*Section 4.* If an inmate of a school for the feeble-minded persistently violates the regulations of the school, or conducts himself or herself so indecently or immorally, or so grossly misbehaves as to render himself or herself an unfit subject for retention therein, the officer in charge of the school shall make a report thereof to one of the judges mentioned in section twenty-nine of said chapter five hundred and four. The judge shall make inquiry into the facts and, if satisfied that such inmate is not a fit subject for retention in the said school, shall order the removal of the inmate to a department for defective delinquents, hereinafter established, according to the age and sex of the inmate as hereinafter provided."

In 1921 (Ch. 270) the provision was added that in the case of a person on trial for a criminal offense it must appear that "the defendant, within a period of three years, has been found guilty of an offense for which he might have been committed to any institution above named or to the custody of



CHILDREN'S CLINICAL BUILDING
Wrentham State School

the department of public welfare or that he has been adjudged a juvenile delinquent." The requirement of a previous conviction within three years was added upon the insistence of certain attorneys who thought an objective criterion of delinquency necessary. It was not until 1928 (Ch. 333) after certain absurdities and socially undesirable features of this period were demonstrable in practice, that the wording was changed to read: "If . . . the court finds the defendant to be mentally defective and, after examination into his record, character and personality, that he has shown himself to be an habitual delinquent or shows tendencies toward becoming such and that such delinquency is or may become a menace to the public" . . . .

No appropriation was provided for in the original bill, so that the law lay dormant for over ten years, as we shall see.

In his annual report to the Trustees for 1914 we find Dr. Wallace calling attention to the menace of the defective delinquents at Wrentham as follows:

"I wish to call to your attention the increasing number of defective delinquents that are being committed to this institution. They are not a class that should be assigned to a school for the feeble-minded. The institution is not designed or constructed to meet the demands of caring for them. They do not classify with the feeble-minded. They interfere very seriously with the ordinary amusements, joys and pleasures of the feeble-minded. They ridicule the best efforts of the employee for the interests of the feeble-minded. In fact, the optimistic and altruistic methods obtaining in the successful care of the feeble-minded are frustrated by this class, at every turn. The tender and considerate quality which is positively essential in the employees caring for the feeble-minded is used by the defective delinquent in gaining his own point, which is always injurious, both to himself and the management of the institution. By his picturesque and notorious escapades in the community, the defective delinquent is more likely to gain the attention of the social worker and be sent to an institution than is the unobtrusive, deserving feeble-minded person."

Again in 1918 and 1919 we find similar warnings, and in 1921 this strong and effective statement of the dangers:

"The presence of a large number of the defective delinquent class in the institution is becoming an increasingly wasteful burden. The institution can do them no good, while they do the ordinary feeble-minded children who are the inmates for whom the school was created incalculable harm by robbing them of a large share of the attention, interest and energy of the staff. The criminal tendencies of this class were well illustrated by the loss of our dairy barn which was set on fire by delinquent inmates and burned last winter."

"It has long been recognized by all forward looking states that in the care of the insane the ordinary insane patients must be protected from the criminal insane. This is accomplished by making special institutional provision for the latter class. Yet in this Commonwealth, which was the leader in making this special provision for the care of the criminal insane, the criminal feeble-minded are still freely committed to our schools for the feeble-minded."

"An institution for the feeble-minded, if well managed, is a community comparable to a small town humming with activities. It is well known how one criminal will terrorize a town, disorganize its activities and disturb the law-abiding citizens. The law-abiding citizens feel that they have a right to be protected from the depredations of the criminal. The feeble-minded children entrusted to our care have as good a right to be protected from the criminal feeble-minded. I believe that our children s inability to protect themselves from the harmful influence of this delinquent class is a challenge to our spirit of fair play and our desire to protect the weak. In justice to the feeble-minded children some action should be taken at the earliest possible time to remove this delinquent class from the schools for the feeble-minded."

At last the voice crying in the wilderness was heard. The Legislature acted to provide funds, and a portion of the State Farm was designated as the Department for Male Defective Delinquents, under the Department of Correction, by proclamation of Governor Cox in March, 1922. By regulation, the age limits were set as between seventeen and twenty-five years. In the meantime, New York State had not only enacted a defective delinquent law but had established an institution at Napanoch. (1921) Although Massachusetts had led, therefore, in the crystallization of the idea, to New York goes the honor of being the first to put the idea into practice.

The final establishment of an institution for male defective delinquents proved of immediate benefit to Wrentham State School. In his 1922 report, Dr. Wallace says:

"The institution has been much relieved by the opening of the department for adult male defective delinquents at Bridgewater and the transferring thereto of those over seventeen years of age. As there has not been any provision made for the women and juvenile defective delinquents, we still have this disturbing class present in large numbers. The attempt to care for this criminal class in a school for the feeble-minded is wholly irrational and a positive failure." The opening of the Department at Bridgewater, although giving relief so far as the boys were concerned, did nothing toward eliminating the troublesome element among the girls. In the 1924 report we find the following:

"The removal of the adult defective delinquent males from our institution has been most beneficial in its results. The whole standard of morale and discipline has been materially improved. I regret, however, that no arrangements have been made whereby the female adult defective delinquents can be removed as well as the juvenile defective delinquents. Both of these classes are still present although in comparatively small numbers, yet are most disturbing in their anti-social activities."

At last patience was rewarded by the opening, by proclamation of Governor Fuller, of the Department for Female Defective Delinquents on September 1, 1926.

The effect upon the Wrentham State School was evidently prompt, as we may note from the following excerpt from the 1926 report:

"The opening of the department at Bridgewater for defective delinquent women and the removal thereto of fifteen delinquent girls from this institution is noteworthy. It is unbelievable, to those who knew nothing of the influence of defective delinquents in a school for the feeble-minded, what an improvement has taken place in the morale of our girls' departments by the removal of these few defective delinquents out of the population of 825 girls. The removal of a group of defective delinquents boys a few years ago and this year the removal of this group of defective delinquent girls, has made it possible to carry on our work for the children much more effectively with a resultant advantage of greater happiness and contentment to both children and employees in the institution. Unfortunately for the schools for the feeble-minded no provision has been made as yet for the care of the adolescent and older defective delinquents. Those transferred from the schools to Bridgewater have been between the ages of seventeen and twenty-five years. We thus find ourselves in possession of a considerable number of the adolescent and older defective delinquents. It would be fortunate indeed if defective delinquency confined itself to a definite cycle in the chronological age of individuals affected, but such is not the case and the schools still have placed on them the burden of caring for these young criminals and old criminals among the ordinary feeble-minded children. This can work out in only one way and it is working out that way, — namely to the great disadvantage of our children. There are comparatively few of these defective delinquents in our institution and they should certainly be removed if we are to do justice to the great number of the feeble-minded whose care is our real responsibility."

Evidently the millennium had not arrived, in spite of the substantial relief thus far afforded, but perhaps it never will; at least, there are those who tell us that when everything is perfect we may know that we have passed on to a better world. Wrentham, at the time of Dr. Wallace's death, (and the same holds true of the other State Schools) still had a few inmates who could rightly be considered defective delinquents. The chief reason for this difficulty, aside from the regulations as to age which limit considerably the eligible group, has lain in the fact that the facilities for the care of defective delinquents have not equalled the demand, even though substantial additions have been made to the quarters for the boys. So great has been the crowding that it has been necessary for the Department of Correction to request the courts not to commit defective delinqents without previously ascertaining that space is available. As a result, Wrentham and the other schools have been compelled to retain inmates who are menaces to the institution and to the other inmates. The reasons for not retaining them have been so cogently stated by Dr. Wallace in the excerpt quoted from his 1921 report that to repeat them here would be supererogatory. Needless to say, additional facilities depend upon legislative action, and until such action is taken the Department of Correction cannot fairly be expected to admit more than is the case at present. At the time of writing (March 15, 1932) there are 291 male and 81 female inmates of the Department for Defective Delinquents. No attempt is made here to deal with the methods and results of treatment at that institution; certain studies are now in process of preparation by its staff which will be of much interest and value when published.

Perhaps a few words about the nature of defective delinquency may be in order here. Some have supposed that the behavior of this group is essentially due to their intellectual defect. It seems likely, indeed, that this was the conception entertained by the drafters of the law in 1911, since it will be remembered that a finding of mental deficiency was required for commitment as a defective delinquent. If the difficulty were primarily mental defect, however, we should expect a much larger proportion of mental defectives to exhibit conduct disorders of the type found among the defective delinquents. It seems much more reasonable to suppose, and indeed today the consensus of psychiatric opinion seems to agree with this view, that the defective delinquent has essentially a psychopathic or otherwise abnormal personality in addition to an underlying defect of intellect. In other words, the defective delinquent is probably a feeble-minded psychopath. This is likewise the view, for example of Dr. Karl Birnbaum, the author of "The Psychopathic Criminal." In one of the last articles he wrote on this general topic ("Are the Feeble-minded Criminals?", Mental Hygiene Jan. 1929), Doctor Wallace expressed the same viewpoint in these words:

"Who, then, are the feeble-minded that are making the trouble by coming into conflict with the law? They are the socially maladjusted; they are exactly the same classes that are making the trouble on the higher mental levels; they are pathological liars, thieves, rovers, bunkers-out, psychopathic personalities, neurasthenics, and individuals suffering from laziness, brain storms, inferiority complexes, temperamental episodes, emotional instability, and the like." This illuminating address was an urgent plea for the need of early training of the mentally defective as a means of adjusting them to society, and an exposition of the truth that after all the total number of mental defectives who either drift into anti-social conduct or are actively criminalistic is small in comparison with the entire feeble-minded population.

Throughout the extracts which have been quoted above, and from other available writings of Dr. Wallace, as well as from personal conversations with him, one fact above all stood out, a fact which constitutes in itself a monument to his memory — his prime and absorbing interest lay in the welfare, the training, and the restoration to the community, where possible, of his charges. He saw in them handicapped children who by reason of their disability needed special care and protection in the opportunity to furnish this care and protection he saw a high personal privilege. How well he succeeded is indelibly impressed on the minds and hearts of all who came in contact with this great-minded and great-hearted lover of his fellow men and of little children.

STATE INSTITUTION PROVISION FOR EDUCATION OF THE MENTALLY DEFECTIVE IN THE UNITED STATES.

Partial Report to a Sub-Committee of the White House Conference on Child Health and Protection.

C. Stanley Raymond, M. D.[1]
Assistant to the Commissioner
Massachusetts Department of Mental Diseases

Note

In the spring of 1930, the late Dr. George L. Wallace and the writer were members of a sub-committee of the White House Conference on Child Health and Protection, studying provisions for the mentally handicapped in the United States.

The following paper was prepared by the writer and read by Dr. Wallace at one of the preliminary meetings of the committee and has never been published as a separate report.

Many reports, dealing with various phases of the problem, were presented by different members of the committee, and, at the final conference at Washington in November, 1930, material from these reports was used in formulating the final report of the committee.)

Special education for the feeble-minded in America received its first impetus with the opening of a school in South Boston, Massachusetts, in 1848. Within the next few years, New York, Pennsylvania and Ohio also developed institutions for the care and training of these individuals. During the next forty years fourteen other states made some institutional provision so that by 1892 there were nineteen public institutions caring for a total population of six thousand mentally defective individuals in seventeen states. Public interest in the problem was aroused during this period by the pioneer work of Drs. Howe, Wilbur, Kerlin, Rogers and Fernald.

In 1904 there were twenty-five institutions in twenty states. Twenty years later, in 1924, there were fifty-one institutions in forty-three states, caring for a total population of thirty-nine thousand, six hundred fifty-five. At the present time, there are eighty-three institutions for the mentally defective in forty-three states and one in the District of Columbia, with a total population of about forty-three thousand. Five states have no institutional provision.

In 1892 there were nine private institutions for the mentally defective in the United States. There are now 113 such institutions with a total population of about 2,000.

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[1] At the time this paper was written Dr. Raymond was Assistant to the Commissioner of Mental Diseases He has since been appointed Superintendent of the Wrentham State School.

No state has adequate provision for housing and training all of the mental defectives within its borders who are in urgent need of such care and training. A questionnaire sent this month to the superintendents of all state institutions throughout the country reveals the fact that there are about 14,000 applications for the admission of children to the various institutions for whom there is no provision. The application list increases directly with the establishment of special classes, school clinics, habit clinics, child guidance clinics, etc., which results in a more complete study of mental defectives, and calls attention to the need of institutional training in some cases. The more frequent recognition of morons since psychological tests have been made practical, has caused a revision in the estimated number of mental defectives in our population and has resulted in many more applications for admissions of this class to the state institutions.

The training of mental defectives in institutions has a three-fold purpose:

1. To give every child an opportunity to develop to the limit of his capacity.
2. To take advantage of the fact that a trained defective is easier to live with and less expensive to care for, than one who is untrained.
3. To prepare a considerable number of high-grade defectives to return to the community as industrious, wage earning, well disposed members of society after years of training.

From an institutional standpoint, the training of mental defectives should be considered according to the following main items:

1. Scholastic training.
2. Industrial training.
3. Vocational guidance.
4. Social training.
5. Habit training.
6. Follow-up service.

In an endeavor to check up on the activities of state institutions along these lines of training, a questionnaire was sent to the superintendents of sixty public institutions for the mentally defective. This questionnaire was as follows:

(Questions 2 to 5 refer only to patients actually in the institution.)

1. How many applications for admission to your school are on file?
2. How many children in your school March 1, 1930?
3. How many of these receive scholastic education? (Sense training, kindergarten and grades) What is the highest grade taught in your school?
4. How many receive industrial training?
   (Including simple forms such as picking up stones, chopping wood, polishing floors, etc., up to the higher types of manual training.) Include those under question 5.
5. How many receive special vocational guidance after routine manual training has been completed? This refers to the higher grades of boys and girls working with painters, carpenters, steamfitters, dressmakers, cooks, etc., with a possibility of their becoming self-supporting?
6. What resources do you use for social training? Dances, parties, dramatic clubs, organized sports, recreation facilities, etc.
7. Habit training:
   Have you any special procedure for dealing with untidiness, table manners, care of body, and clothing, etc.?
   Realizing that habit training is given to every child in your institution, a brief note concerning any special methods would be appreciated.

8. What facilities have you for the follow-up of patients on visit, parole or discharge?
   Personal reports, reports by letter, visits of social worker to home, etc.

9. If resources were available, would you make additions to your equipment and personnel for scholastic and industrial training purposes? Please specify briefly.

Answers were received from 48 superintendents. The combined total of answers to question one was 13,768 applications. The combined total of answers to question two was 41,572. The last available reports of the institutions from whom no answer was received gave an added population of 1,850, making an approximate total population of 43,422 children in institutions of this kind in the United States. Six thousand seven hundred (6,700) more were in hospitals for epileptics; 18,829, in hospitals for mentally ill; and 12,183 in almshouses.

In answer to question three, the number receiving scholastic training was given as ten thousand forty-nine. This is, roughly, one-fourth of the total institution population, although the proportions varied greatly in different institutions.

The highest grade taught in 7 schools was the 4th
The highest grade taught in 13 schools was the 5th.
The highest grade taught in 16 schools was the 6th.
The highest grade taught in 5 schools was the 7th.
The highest grade taught in 4 schools was the 8th.
Three institutions had no schools for scholastic training.

Some of the institutions teaching the seventh and eighth grades had epileptics who were able to do this higher grade work. It is generally agreed, however, that children who are able to do all work on the sixth grade level or above should not occupy a bed in a school for the mentally defective and, if it is necessary to remove them from the community because of social or moral reasons, some other type of provision should be made for them. The long application lists for admission to most schools makes it unfair to the definitely mentally defective to have their beds taken by dull normal and borderline defectives.

In answer to question 4, the number receiving industrial training was 26,000 or about two-thirds of the total school population.

In answer to question 5 the number receiving vocational training was 6,889, or about one-sixth of the total school population.

It is obviously futile to try to teach a three or four year old mind to read and write. Educational possibilities are conditioned by a child's measurable intelligence, and the grade of school work corresponds closely with the expectations on a given mental level.

There is no special pedagogy in teaching mentally defective children except that more graphic material is used. Many excellent pamphlets have been published dealing with the scholastic education of these children. Three of the best are:

1. "Course of Study for Subnormal Children", by Mossie D. Holmes, published by the National Publishing Society.

2. "Teaching Dull and Retarded Children", by Inskeep, published by the Macmillan Company.

3. "Special Classes for Children Three or More Years Retarded." Bulletin of the Massachusetts Department of Education, 1927, Number 7.

The school progress of mentally defective children is slow, and even with the moron group it usually requires three years to do one year's work. Reading and writing furnish resources for the employment of leisure, but it is not possible to advance far enough in either subject to furnish a working tool for the earning of wages. Arithmetic may be taught to such a degree that the boy or girl may make purchases and handle money without being cheated, but never advanced enough to read blue prints, make estimates of cost of materials in construction or run a household budget.

After the age of sixteen years there is little to be gained by continuing scholastic work and it is wiser to put the child's full time into industrial and vocational work.

Most mentally handicapped children are manually minded. Their usefulness either in the institution or in the community depends very largely on the industrial training which they receive. During childhood and adolescence as wide a variety of industries as possible should be taught rather than any specialized industry. Experience has shown that mental defectives who can do several different kinds of work fairly well are less likely to be out of a job than those whose entire training has been in one or two industries.

The types of industries that may be taught at the various mental age levels are known, and there is no further need of wasting time and effort in trying to teach a five year old mind, for example, to perform work requiring an intellectual level of eight or nine years. A small book has been written by Dr. Mary Vanuxem of Laurelton, Pennsylvania, listing a wide variety of occupations performed by girls and women of various mental age levels in that institution. An article published by the writer in the 1926, "Proceedings of the Association for the Study of the Feeble-minded", and elsewhere, lists the industrial possibilities of the boys and girls at the Walter E. Fernald State School, giving the types of work which may be successfully taught to children on the three-year level, the four-year level, and so on up to a mental age of eleven years, with a separate list for each mental age. For example:

MENTAL AGE OF 7.

Boys:
- Painting. (Farm tools, etc. No fine work.)
- Shoe repairing, except trimming and burnishing.
- Weeding. (Fine work such as onions, young carrots, etc.)
- Harvesting garden vegetables except table corn, tomatoes, peas and other things needing more mature judgment.
- Sewing on buttons and patches.
- Hoeing and thinning vegetables.
- Sewing coire braid mats.
- Weaving of towel and napkin material on Concord Loom.
- Cane seating. (First two processes.)
- Carpenter work. (Simple repairs such as vegetable boxes, brush backs, etc.)

Girls:
- Crocheting.
- Knitting.
- Plain and Italian hemstitching.
- Cross stitch on pattern. (Simple work.)
- Operating household sewing machine.
- Operating Faribault loom with pattern.
- Weaving towel and napkin material on Concord Loom.

Stitching cloth reins. (Toys.)
Braiding and sewing rags for rugs.
Sweeping and dusting.
Harvesting garden vegetables, except table corn, tomatoes, peas, and other things needing more mature judgment.

MENTAL AGE OF 8

Boys:
- Ironing.
- Painting. Outside and Interior flatwork.
- Hair cutting.
- Carpenter's helper. (Shingling and glass setting. Fine sawing and planing. Ripping out to a line.)
- Cane seating. (Whole process.)
- Toy making, wooden animals, checker boards.
- Basket making.

Girls:
- Crocheting.
- Knitting. (Sweater, caps and neck scarfs.)
- Embroidery. (French knots, buttonhole stitch and cross stitch through canvas.)
- Basket making. (Simple patterns.)
- Operating bead loom with pattern.
- Stencil work.
- Dressing dolls. (Without help).
- Making hooked rugs.
- Operating scarf loom.
- Making dresses cut out by others.
- Laundry. Plain ironing.

The geographical location of an institution modifies the types of industries taught but, if sufficient study is made, these could all be classified on a mental age basis.

After the utmost variety of industrial training has been given in conjunction with scholastic work, certain aptitudes and inclinations are usually observed, and then is the time to specialize on vocational training. The expectancy of success in vocational training is much greater if the previous years have afforded the child a well balanced program of scholastic work and varied industrial experience.

In arranging a plan of vocational training for boys and girls likely to leave the institution in the future, special attention should be given to teaching the simpler branches of the local industries.

A considerable number of boys and girls leave the State Schools after years of training, earn living wages, and make satisfactory community adjustments. In all probability, most of these boys and girls would have been economic failures and serious community problems if they had not had this training.

Social training in emotional control, in inhibitions and in learning to do as other children do is a very valuable and necessary measure in the education of the mentally defective. Faulty social adjustment is frequently the deciding issue which brings a subnormal child to a state institution, who otherwise might have remained at home. Much time, thought, and material is used in all of the state schools to develop this phase of training. Practically all of them have religious services, dances, movies, house parties, picnics, entertainments, community singing, organized sports and a variety of in-door and outdoor recreation facilities. Some of the schools have dramatic clubs, Boy Scout Troops, Camp Fire Girls, summer recreation camps, reading clubs, bands, orchestras, fishing trips and beach parties.

To sit quietly at a movie or entertainment, to be polite at a party, decorous at a dance, to play games fairly, to learn to give and take without malice in competitive sports is all of tremendous help in making a difficult boy or girl easier to live with. To belong to a club, to be a member of a ball team, to take part in entertainments or, in other words, to be accepted as an equal by a group, is a great aid in developing self respect and personal pride. A child who has been taunted and shunned by the children in his neighborhood frequently becomes defiant, rebellious and a social problem. Wise management in an institution will place such a child in situations where he can experience success instead of failure every day, and when he receives praise instead of taunts, and finds himself wanted by his group in their various activities he soon ceases to be a social problem.

Habit training is used extensively in all state schools for the mentally defective. Considerable success in dealing with untidiness, bad table manners, slovenly dress, etc., results from detailed, persistent effort.

Wetting and soiling the day and night clothing is dealt with by regular trips to the toilet, the frequency and time being determined by the degree of untidiness and by individual study of each child. Some superintendents report success by the use of rewards and minor punishments such as the deprivation of privileges. Other regard the control of fluid intake after 4 p. m. to be of great help in dealing with bed wetting. One superintendent states that a daily cleansing enema to patients who soil their clothing does away entirely with that trouble.

Children in most of the state schools are taught to go to the dining room quietly, to sit with their hands in their laps until served and then to eat, as nearly as possible, like normal people. In some schools absolute silence is obtained before grace is spoken or sung, and silence is maintained throughout the meal. A noisy, excitable child if placed at a table where all of the others are quiet and orderly, will frequently fall in line within a short time and be like the others. The older and brighter children receive more intricate instructions in the technique of table behavior in their domestic science classes, afternoon teas, and parties where refreshments are served.

Care of the skin, hair, nails, and teeth is taught to the brighter children but, of course, this care has to be given to the low grade children by employees or by brighter patients under the direction of employees. Washing of face and hands and grooming of the hair before meals is routine practice.

Instruction in lacing shoes and in buttoning clothing is given in most sense training classes. Habits of obedience and industry are developed from the day of admission to a state school and daily experience soon fixes these habits.

The importance of social training and of habit training can not be over emphasized. Community programs for dealing with the mentally defective may provide suitable facilities for scholastic, industrial and vocational training. However, they have not the equipment and personnel which operates twenty-four hours a day in social and habit training, and which is necessary in the proper handling of at least one-fifth of the total number of such children.

Follow-up work with patients on visit, parole or discharge is carried on in the majority of institutions by the Social Service Department of the institution. In some states an attempt is made to supervise those who leave the school by Probation Officers. In others a Social Service Department under the direction of a Board of Control and entirely separate from the institution functions in this capacity. Still others report to the committing judge whenever a child leaves the school, and a few superintendents reported that they had no personnel or facilities for follow-up service.

The usual methods employed are personal reports at specified intervals, reports by letter from the parents, guardian and employer, visits of a social worker to the child's home and a frequent check up on behavior, social adjustment, habits of industry and disposal o wages. In many states former patients are kept on a visit or parole basis for years with an arrangement which permits their immediate return to the institution whenever they fail to get along. This service is, of course, a great saving to the taxpayers and frequently results in permanent community adjustment on the part of the individual.

In answer to question 9, only a few superintendents expressed the opinion that the equipment and personnel for scholastic and industrial training was adequate for the needs of their population. Three quarters of them stated that additions were needed in the way of space and equipment for industrial training. Others wrote that additions to personnel for scholastic and industrial training were needed. Only a few institutions had no school or industrial training. Several superintendents stated that they had been asking for additions to training facilities for years, only to be refused appropriations for that purpose by their respective legislatures.

In cities and towns where school clinics have been in operation for years and where a complete check-up has been made on all children of school age who are three or more years retarded, it has been found that from one and one-half per cent to three per cent are sufficiently retarded to need either special class or institutional care and training.

Take Massachusetts, for example, with 837,097 children between the ages five and sixteen years inclusive, according to the Department of Education Annual Report of 1929. Two per cent of this number, to be conservative, shows that 16,741 children of school age in Massachusetts need special class or institution training.

Experience has shown that at least twenty per cent of the latter number urgently need institution care and training, because of family, social, moral or economic problems in addition to the mental defect. Thus, in Massachusetts for instance there are at least 3,348 children of school age who should be in an institution for the mentally defective. It is interesting to note in respect to the above, that applications for admission to the three state schools total 2,886 and the combined population of the three schools is 4,114. In other words, if the schools were all emptied tomorrow, they could be refilled by the applicants on file.

Similar figures based on the school census of each state could be obtained and would show the size of the problem as compared to the actual provision being made.

The United States Census of 1926 gave an estimate of 30,064,621 children from five to seventeen years of age in the United States at that time. Two per cent of this figure shows that in 1926 there were at least 600,000 feebleminded children in the United States. Twenty per cent of this two per cent shows that 120,000 urgently needed institutional care and training at that time.

With a total of approximately 43,000 in the state schools of this country at the present time, it is apparent that only a third of those urgently needing institutional protection and training are actually receiving it.

NURSERY BUILDINGS
Wrentham State School

THE WALTER E. FERNALD PLAN FOR THE EXAMINATION OF RETARDED SCHOOL CHILDREN[1] [2]

By Neil A. Dayton, M. D., M. C.
Director of Research, Massachusetts Department of Mental Diseases

Foreword

It would be hard to match the devotion and admiration which George L. Wallace felt for Walter E. Fernald Beginning at the time when he first became an employee at the Waverley School, before the acquisition of his M. D. degree, this admiration grew and developed until the high idealism of Fernald had become almost a religion to Wallace. If George L. Wallace could have selected the material for his own Memorial Bulletin I am sure that he would have devoted a major portion of it to the life and accomplishments of Walter E. Fernald. It is, therefore, with great pleasure that the writer presents this outline of an accomplishment fathered by Walter E. Fernald and, after his death, pursued most diligently by George L. Wallace.

Historical Sketch

The present communication is rather in the nature of a biographical sketch in that it presents a story of the crowning accomplishment of a man's life. Although this is written nearly seven years after the death of the late Dr. Walter E. Fernald, it tells of the great work which has gone on after him, a work which is a more fitting monument to his memory than any material edifice could possibly be. The high position which Massachusetts now occupies in the care of the mentally deficient is due largely to the pioneer work of Dr. Fernald. His untiring energy and discerning foresight have not only placed the work on a high plane in New England but have benefited hundreds of thousands of retarded and backward children throughout the world

Over thirty years ago Dr. Fernald realized that there was an urgent need for greater public recognition of the problem of mental deficiency. In addition, he realized the urgent necessity for early diagnosis and treatment of the various problems of mental retardation. Hundreds of children were being committed to his school at the age of 18 or 20 years, cases on whom the diagnosis had been postponed until the individual was an adult. The medical profession itself was not entirely free from blame. There were innumerable instances of physicians who told parents that the children would probably outgrow the early symptoms of mental deficiency. Thus, the problem was one of educating the medical profession as well as the general public. Dr. Fernald undertook the arduous task of appealing directly to the public and to the medical profession. Through writings and numerous talks over a period of years he finally succeeded in placing mental deficiency before the public mind in its proper position as a major social problem.

In order that his school at Waverley might assist in the matter of early recognition of mental deficiency Dr. Fernald created his well-known out-patient department to examine, diagnose and render advice in cases referred to him from the community. By this time, however, public interest had so increased that he was unable to meet all demands for this service, and it became evident that some other means must be devised to meet the problem. In addition, it was difficult for parents or other interested individuals who resided at a distance to bring their children to Dr. Fernald's school at Waverley for the needed examination. While this out-patient clinic served the Boston area to advantage, many cases residing in other parts of the State remained desperately in need of advice.

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[1] Read before the Mental Hygiene Section of the New England Health Institute at Portland, Maine, April 20–23, 1931.

[2] From the Division of Research, Massachusetts State Department of Mental Diseases. The writer was assisted in the preparation of this paper by Miss Helen H. Dolan, Chief Research Worker, D. M. D.

The public schools likewise had large numbers of retarded children. No means of transportation was available by which these children might be brought to Dr. Fernald's out-patient clinic for diagnosis. Educators soon began to feel the need for psychiatric aid in diagnosing and caring for these individuals. Regular classes were being markedly interfered with and the progress of entire grades held back by the presence of a few backward children. Some progressive schools had met the problem by creating special classes, but the crying need was for a method of *determining the exact mental status of these retarded children before their placement in a special class.* The great mass of public schools were still unwilling to make the move, then considered radical, of setting aside special teachers and classrooms for the care of their retarded children.

Dr. Fernald saw that mental deficiency was so widespread, and affected such a comparatively large portion of our population, that institutional care could never be the practical or even the desired way of settling the problem. He realized the urgent need for early recognition and adequate care for *all* mental defectives or, in fact, for all children with any degree of retardation whether or not mentally defective.

Over twenty years ago he said that the care of the great majority of mentally deficient children must be an educational problem and should be taken care of in the proper manner within the various public school systems. The public schools, however, lacked a means of diagnosing the actual degree of existing mental defect. The result was that only extreme cases were being cared for in the scattered special classes. This was not because of any unwillingness to meet the problem, but because a satisfactory method of diagnosis and necessary funds for the establishment of special classes were not available.

To assist in the matter of diagnosis of mental deficiency Dr. Fernald then conceived the thought of projecting his out-patient examinations into the public school system. He devised a plan whereby the personnel of his out-patient clinic would become a traveling unit and visit each public school in turn to conduct a comprehensive examination of all retarded children in those schools.

In the fall of 1914 Miss Edith M. Dixon (the present Director of Child Study of the Worcester public schools) went to Dr. Fernald at Waverley and asked him if some method could be devised whereby the Worcester schools might know a little more about their backward pupils. This request, coming as it did at a most propitious moment, was answered by the creation of the first traveling psychiatric school clinic. Dr. Anna Wallace was placed in charge of this clinic, and the first public school children were examined at Worcester on December 15, 1914. In 1915 Dr. Edith E. Woodill assumed charge of the work of this group, and later Dr. S. B. Woodward became school clinic physician.

During the first year a total of 126 children were examined. The work progressed slowly, and other towns took advantage of this service. In 1917 the late Dr. George L. Wallace created the second traveling school clinic to operate from the Wrentham State School, this clinic being under the charge of Dr. Mildred A. Libby. Later this work was taken over by Dr. Alice M. Patterson.

The two clinics had the difficult task of pioneering in a new and untried field. It must be remembered that psychiatry at that time had not had the benefit of the intensive work carried out over the past fifteen years in the field of mental hygiene. Then, the mental defective was considered a menace to the community, and a rather general public misconception of the whole subject had been built up. This had meant the denial of public sympathy to a group very much in need of it. The clinics had to overcome the ingrained prejudices which had been built up by many years of misunderstanding.

Requests for the service of the two clinics soon increased beyond their capacities, and it became evident to Dr. Fernald that if all retarded children were to have the benefit of an early psychiatric diagnosis it was necessary to make still further arrangements. It was also becoming necessary to make provision for the retarded children once the diagnosis had been made and advice rendered. The situation was as follows: Many school superintendents, aware of the need for special provision for backward or mentally defective children, felt that the special class was the answer, at least for certain types of these children. However, when they attempted to establish such classes they encountered opposition from school boards or from other guardians of the municipal pursestrings. This opposition did not arise from any unwillingness on the part of educators to care for the retarded children, but mainly from the feeling on the part of town officials that education was including too many new, untried and expensive items in the school curriculum. The special class meant another room, a new teacher, and certain equipment for hand work which was unnecessary in the regular grades.

The task now was to devise some means of actually providing for these special classes. Dr. Fernald worked in conjunction with the Department of Mental Diseases and the Department of Education in outlining a method whereby this might be accomplished. The result of their work is shown in a law enacted by the General Court of 1919 to legalize the operation of the clinics throughout the public school system and to require the establishment of special classes. This law was later amended by the Legislature of 1922 and again in 1931, and is as follows:

> "Chapter 71, Section 46, General Laws, as amended by statutes, 1922, chapter 231 and 1931, chapter 358 — "The school committee of every town shall annually ascertain, *under regulations prescribed by the department of education and the department of mental diseases*, the number of children three years or more retarded in mental development in attendance upon its public schools, or of school age and resident therein. At the beginning of each school year, the committee of *every town where there are ten or more such children shall establish special classes for their instruction according to their mental attainments*, under regulations prescribed by the department. A child appearing to be mentally retarded in any less degree may, upon request of the superintendent of schools of the town where he attends school, be examined under such regulations as may be prescribed by the department of education and the department of mental diseases. No child under the control of the department of public welfare or of the child welfare division of the institutions department of the city of Boston, who is three years or more retarded in mental development within the meaning of this section, shall, after complaint made by the school committee to the department of public welfare or said division, be placed in a town which is not required to maintain a special class as provided for in this section."

The two Departments then collaborated in outlining certain regulations dealing with examinations and special class provision. The regulation of the Department of Mental Diseases effecting the provision of a clinic examining system is as follows:

> "1. The school committee shall require the examination of all children of school age residing in the town who appear to be three or more

> years retarded in mental development. *The examination shall be given by the State Department of Mental Diseases or an examiner approved by that Department.*"

It will be observed that this law does two very definite things: *First*, it gives the Department of Mental Diseases (a) the power to actually direct and supervise the work of all examiners of retarded children in the public schools, and (b) in this manner, to legalize the operation of the traveling psychiatric school clinic within the schools. *Second*, it makes mandatory the establishment of a special class whenever ten or more children are identified as being three or more years retarded. The enactment of this law removed to a large extent the element of chance in the matter of the examination and class placement of retarded pupils. It rendered obligatory the reporting of all retarded children. It also provided a means for their examination by a competent psychiatric clinic, and provided a method of caring for the great majority of the children so examined.

Now that the examinations were legalized, it became necessary to devise some means of conducting them. It was obvious to Dr. Fernald that the two traveling clinics then in operation could not cover the entire State. The difficulty was placed before the Commissioner of Mental Diseases, Dr. George M. Kline, and in 1921, as a result of their collaboration, traveling clinics were created to operate from each of the fourteen[3] institutions under the Department of Mental Diseases. Dr. Fernald took the personnel of these clinics to his school and trained them in the procedure of carrying out the examination in accordance with his well known "ten-point scale examination." Dr. Kline saw that the withdrawal of a psychiatrist from the medical staffs of the various hospitals would interfere seriously with the medical work. For this reason he increased the quota of each institution by one physician and one psychologist. The new physicians thus added were not used for the school clinic units. It has been the policy of all mental hospitals to use an experienced psychiatrist on this work. During the first year of operation the school clinic work was done quite uniformly by the assistant superintendents of the various hospitals. From time to time Dr. Fernald repeated his training courses and other physicians became familiar with the system. Since Dr. Fernald's death the training courses have been continued by Dr. Ransom A. Greene, the present Superintendent of the Walter E. Fernald State School. The result has been that every mental hospital or State school in Massachusetts has trained three or four physicians for this type of work. Thus, the machinery was created to provide for an adequate State-wide system for the examination of all retarded children.

Dr. Payson Smith, Commissioner of Education, and Mr. Arthur B. Lord, Supervisor of Special Classes, took active parts in framing the law relating to retarded children, and particularly in outlining and enforcing the regulations which have contributed so materially to the operation of the school clinic system. It is needless to say that without this valued cooperation on the part of the Department of Education it would have been impossible for the school clinic system to attain any degree of efficiency.

When the clinics had been trained in the technique of the complete examination, certain districts were assigned to the State hospitals and State schools. The location of the hospitals and schools from which the clinics operate is outlined in Graph I. It was the intention that each institution should serve the cities, towns and villages nearest to it, and thus minimize the expenditure of time and money through difficulties of travel. However, children in the immediate town or city in which the institution was located

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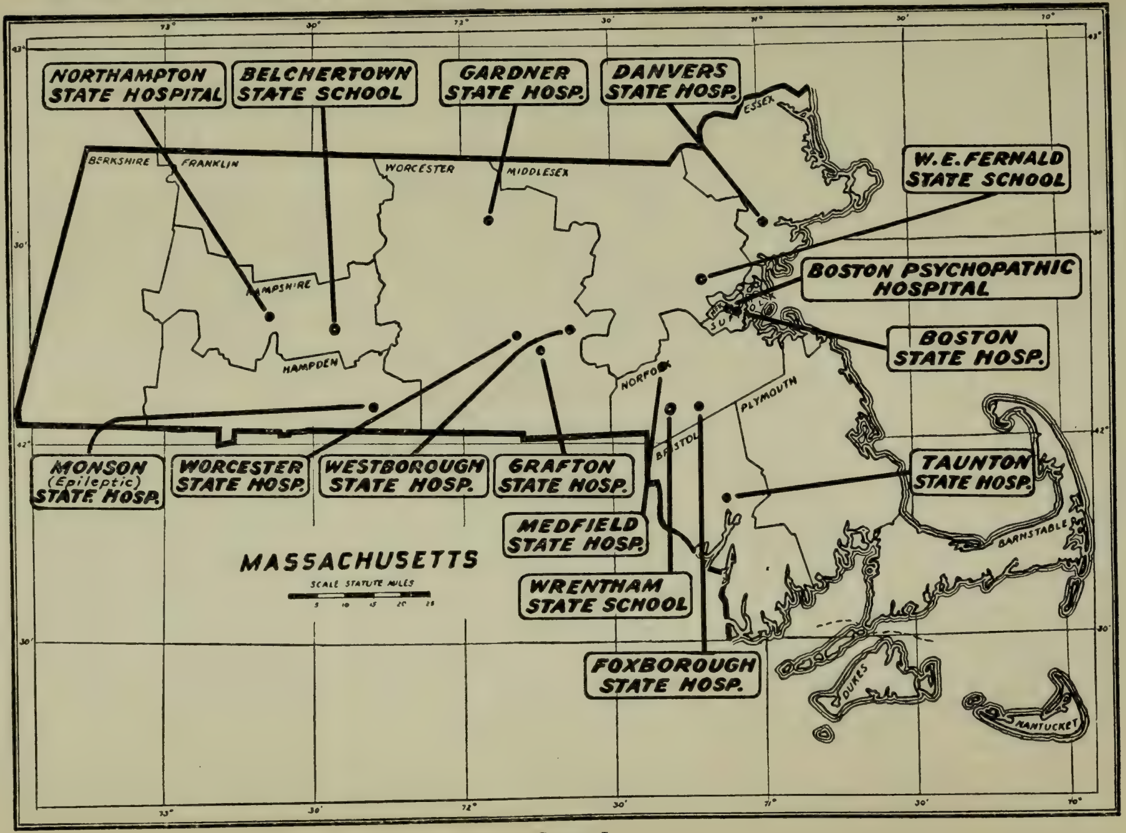
[3] In January, 1928, the Belchertown State School placed in operation the fifteenth clinic devoted to this work. Plans for the sixteenth clinic are under consideration at the present time.

CENTRAL LOCATION OF TRAVELING CLINICS



Graph I

were very rarely examined by the clinic of the local institution. It was thought best to bring in a clinic from another hospital and one entirely separated from the local situation.

Certain population difficulties were encountered insofar as the Northampton State Hospital had an extremely large area in the western part of the State. They had to do a great deal of traveling to visit the small schools in the rural areas. This clinic has done very excellent work in carrying their psychiatric service to communities in many quite out-of-the-way places. It will be observed that most of the institutions are in the eastern part of the State. Thus, the traveling clinics within these districts are better able to deal with the population concentration in this section. Most of the State hospitals have a car for the use of the clinic staff while carrying out their duties. In some instances it has been desirable for the clinic to take quarters in a local hotel when operating in a town located some distance from the State hospital or State School.

It may be well to state here that one of the great problems of these educational systems was solved by the providing of a complete psychiatric examination to schools in the rural districts. One can feel assured that the large cities will recognize the problem of retardation, will provide or secure the services of a satisfactory examining unit, and will organize the necessary special classes. However, numberless smaller communities need help in recognizing their retardates and in outlining a special class program to meet the needs of their smaller school system. The requirements of a community with ten retardates are obviously different from those of the city with two hundred retardates and a special building of twelve classrooms available for this group. What is the smaller school to do about its backward pupils, particularly when they have but three or four children falling in this classification? The need of special provision for these few is of no less importance to the normal children in the same grades than in a large city. Hitherto it has not been possible for the smaller towns and villages to obtain help in this direction. The organization of the school clinic system on a State-wide basis made provision for all communities, large or small. The provision of a competent psychiatric service for the schools of the rural districts is one of the most valuable results of the school clinic plan.

THE FERNALD TEN-POINT SCALE EXAMINATION

At this point we wish to proceed with a description of the examination which was elaborated by Doctor Fernald. He was one of the first to see the urgent necessity for a complete examination of the retarded child rather than one based solely upon psychological tests. Useful as the latter tests were, experience had taught Doctor Fernald that they gave a very incomplete picture of the retarded child as a whole, and nothing of the sum total of his characteristics or of the reactions which might be expected apart from his intelligence. The urgent necessity for obtaining a complete study of the child's inheritance, environment, personal characteristics, physical condition, etc., led him to devise his well-known "Ten-point Scale Examination." Forms were created and printed for each of the points to be covered. A brief outline of these points is presented.

1. *Family History.* Inquiry is made into the history of the parents, grandparents and other relatives to ascertain the presence of mental disease, epilepsy or mental deficiency. Syphilis and gonorrhea are also recorded, as well as tuberculosis and alcoholism. If there has been a criminal record, the circumstances are investigated. The use of drugs is likewise checked, and any other physical disorders which have played a prominent part in the lives of the parents or other relatives. The pre-natal condition of the mother is

inquired into. While the above are of particular interest, other diseases or disorders are made the source of specific inquiry.

The age of both the mother and father at the time of birth of the child, the birthplace of both parents, and the occupation of the father are recorded. A rather extensive investigation is made with reference to the siblings. A notation is made of all miscarriages, stillbirths and siblings. The order of birth is preserved. A record of all deaths is made. We obtain the present age, the present school grade and the intelligence quotient of each of the siblings. The material, of course, gives us definite and valuable information regarding the incidence of mental defect or retardation among the brothers and sisters of the child to be examined.

2. *Personal and Developmental Hisotry.* This form traces the history of the child from birth. Was the birth difficult, prolonged, instrumental or unusual in any way? A complete history is recorded of all illnesses occurring before the age of 6 years, with particular reference to the period of infancy and up to 2 years. Is there a history of convulsions of any type? At what age did the child begin to walk? At what age did he begin to talk? When did the first teeth appear? At what age did mental peculiarity manifest itself? Was the child backward or peculiar from birth? Did symptoms or peculiarities develop suddenly? These questions are simply a few of the many calculated to indicate the history of the child's early development, with particular reference to the years under 6.

3. *History of School Progress.* Here we endeavor to investigate the progress of the child in his school work. At what age did he first attend school? Has he attended different schools? How long a time has he spent in each school? We then investigate the length of time which the child spent in each grade beginning with the first grade and passing along up to the eighth grade. We try to obtain the opinion of the teacher regarding his school progress and the reasons for his failure. If more than one teacher is available, we obtain information from her also. We request the teacher's information with regard to the child's conduct and behavior in school. Is there a record of truancy, and to what extent? If truancy is present, what is the child's explanation of this?

4. *Social History.* This form outlines data with regard to the environmental conditions to which the child has been subjected. It is desirable to have as much information as possible about the home situation and the neighborhood. A great deal of data can be gained by a study of the child's reactions with his play associates. Does he choose children of his own age, or does he prefer younger children? What are the reactions of other children toward him? Is he a leader? Is he accepted as an equal by other boys and girls of his own age, or is he led by others? An outline is secured of his chief amusements, interests and reactions to play situations. What are the outstanding character traits exhibited? Is he a quarrelsome type, a retiring and seclusive individual, or does he show impulsive trends and emotional instability? On the other hand, is he too obedient and extremely suggestible? Thus, this part of the examination provides us with a study of the setting in which the child lives, his reactions to his environments, and information as to his outstanding characteristics.

5. *Personal Characteristics and Social Conduct.* This portion of the examination is, to a certain extent, closely allied with the preceding sections. It deals specifically with the types of reaction of others toward him. Knowing the basic conditions and the results which might be expected, we now turn to the finished product, so to speak, in the conduct of the child. Has there ever been any evidence of stealing? Does the child lie? If so, does he do this maliciously, imaginatively or purposelessly? What are the child's re-

actions to matters of sex? Has there been any evidence of abnormal interest or practice in sex matters? If the child is an older girl, we wish to know if there have been any pregnancies. In some of the older boys and girls we find a definite court record. If so, we wish to have a detailed report on these matters.

It is rather difficult to state definite questions which would satisfactorily outline this section of the examination. The great variety of conduct makes it impossible to cover all possible deviations. The social worker, visiting nurse or school nurse, and psychiatrist simply record here the sum total of the child's behavior.

6. *Economic Efficiency.* This form records available data on what is known of the effort of the child to make himself useful. If the child is 14 years or older, we wish to know of any efforts to obtain employment, and the success of these efforts. If the child is under 14, we wish to know whether or not he makes himself helpful at home, and what his attitude is within the school itself. A great deal of information is gained from a study of the child's attitude toward his home and his willingness to assume a share of the household burdens. If there has been definite employment we record the kind of work, the wages, the quality of the work and reasons for leaving employment. The opinion of the employer with regard to the child is also investigated. If the child has never earned wages, we inquire into the kind of useful work he is capable of doing in the home or elsewhere.

7. *Practical Knowledge.* This portion of the examination is used to measure the amount of practical knowledge in everyday affairs that the child has absorbed from his environment and associates. There is a great deal of practical knowledge that is valuable to the child but which is not measurable by ordinary intelligence tests or by school tests which record the acquirement of school knowledge. Many children have an unusual amount of what is known as "common sense," and are able to meet situations which do not necessarily require a high degree of intelligence or school knowledge. It is important to know how a child rates in reference to these facts. Two tests are available, one for younger children and one for older children.

8. *School Work.* This test was devised by Doctor Fernald to record the accomplishment of the child in various subjects by school grade. It presents his actual accomplishment and affords an opportunity to compare his school progress in various school subjects. It is not unusual for the retarded child to be unbalanced in his acquirement of school knowledge. That is, he will do far better in one study than in another. This test shows definitely the subjects in which he needs special coaching as well as the subjects in which he excels. On the completion of this test a chart is made known as the Correlation Chart. This shows the standing of the child in his various school subjects compared with his chronological age, intelligence quotient, and mental age. It outlines the actual accomplishment of the child, and the accomplishment which he should show in accordance with his chronological age.

9. *Physical Examination.* The physical examination is made by the psychiatrist. It records the sitting and standing height of the child and also his weight. This form has space for inserting the standard average on height and weight based on age and sex as outlined in the Baldwin-Wood Tables. In this manner an instant comparison can be made. The head shape, length, width, and cephalic index are recorded. Vision and hearing are tested by standard examination. Space is provided for recording the findings of examinations of different organs. The physical examination constitutes a very important part of the Ten-Point Scale series. We know that defective

children have a large number of physical defects[4], [5] and it is of the utmost importance that those defects which are subject to correction be accurately recorded and reported.

10. *Psychological Tests.* In the original sequence of the various points of the examination, Dr. Fernald placed the psychological tests last, as he disliked the thought of making the examination of any child more or less mechanical. He wished to make sure that it should never be forgotten that the whole child was being subject to review and not simply one particular characteristic. The Stanford-Revision of the Binet-Simon test has been adopted as a standard for all clinics, but of course this does not exclude other tests at the discretion of the psychiatrist.

It will be observed that the foregoing information presents a very complete story of the child being examined. It reaches back into his family history, evaluates the parental characteristics, the prenatal influences, circumstances surrounding his birth, and details of his early life. It studies the early development of peculiarities, the history of his school life and progress, the development of personal characteristics, the influence of the environment, and his general reaction to the various influences brought to bear upon him. Dr. Fernald was very insistent that we could never make a diagnosis of retardation or mental deficiency unless we had a complete review of the child before us. Hasty and unconsidered decisions in reference to the status of retardation or mental deficiency are such important matters that they should never be made without full and complete information being available, and a thorough and careful examination being made.

All of the forms of this school clinic examination are looseleaf and can be distributed to the individual persons conducting the particular examination outlined thereon. At the end of the examination they are re-assembled and presented to the psychiatrist so that a summary can be written, the diagnosis made, and the recommendations recorded.

PERSONNEL OF THE TRAVELING CLINIC UNIT

While various combinations have been tried in perfecting an ideal personnel for the traveling school clinic, one grouping has stood out as eminently satisfactory and that is the one which will be outlined here. The standard personnel at the present time is as follows, (Graph II): one psychiatrist, one psychologist, and one social worker. Through arrangement with the school authorities, the clinic also has the services of one of the local teachers, and the school nurse or school visiting teacher. It is necessary, of course, for the clinic to adapt itself to the school situation which it meets. If both the school nurse and visiting teacher are available, the work is made considerably lighter and more rapid.

A brief outline of the duties of each person is as follows:

1. *The Psychiatrist.* The psychiatrist always conducts the physical examination, and the mental examination as well. Insofar as we plan to have the complete social history available at the time of the examination, the psychiatrist has an opportunity to check over many of the characteristics and reactions outlined in this history. If any particular leads develop, he has an opportunity to follow them through. Children presenting prepsychotic episodes occasionally appear among the retardates, and it is essential that a very thorough examination of each child be conducted. When the different parts of the examination have been completed and the different

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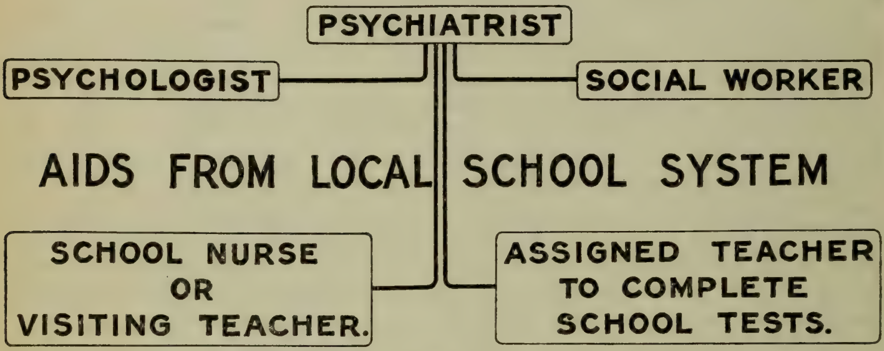
[4] Dayton, N. A.: The Relationship Between Physical Defects and Intelligence. Proceedings Amer. Assn. for Study of Feeble-minded, 53: 1–27, 1929.

[5] Dayton, N. A.: Correlation Between Intelligence and Physical Condition in 14,176 Retarded School Children. Med. Jour. and Record, 132: 222–224, Sept. 3, 1930.

reports are available, the psychiatrist assembles all of the data and makes a diagnosis. This diagnosis is based upon the sum total of all information available and not upon results of any one test or group of tests. *It is interesting to observe that quite frequently the diagnosis does not agree with the findings of the psychological test.* In addition to the diagnosis the psychiatrist also makes three groups of recommendations under the following headings: (a) educational; (b) social; and (c) physical.

PERSONNEL OF TRAVELING SCHOOL CLINIC


PSYCHIATRIST
PSYCHOLOGIST
SOCIAL WORKER
AIDS FROM LOCAL SCHOOL SYSTEM
SCHOOL NURSE OR VISITING TEACHER.
ASSIGNED TEACHER TO COMPLETE SCHOOL TESTS.

Graph II

Through the social worker, school nurse or visiting teacher, an invitation has been previously extended to the parents to visit the clinic at the time of the examination and to confer with the psychiatrist. This is by far the most satisfactory means of getting over to the parents the recommendations which have special reference to the home life, other environmental factors, and the physical conditions needing correction. If the parent is not present it becomes necessary to depend upon the social worker, school nurse, or visiting teacher for the purpose of passing along this information to the parents. Every effort should be made, however, to familiarize parents with the purpose and intentions of the examination.

2. *The Psychologist.* This member of the clinic conducts the psychological tests and also the portions of the examination devoted to practical knowledge. As mentioned before, the Stanford Revision of the Binet Simon test is the standard and must be used by all clinics. This does not preclude the possibility of using other tests if the psychiatrist so desires. It is difficult to outline any set duties other than the above. There are certain other details such as assisting in the preparation of the summary which can be very well taken care of by this member of the clinic.

3. *The Social Worker.* The social worker is usually in the field some time previous to the actual conducting of the examination. This early taking of the social history provides an opportunity for follow-up of certain outstanding leads, all of which should be completed and the data available before the examination by the psychiatrist. It must be mentioned, however, that schools with well developed organizations and having school nurses or visiting teachers should use these persons in the obtaining of histories rather than calling upon the clinic social worker. The social worker should be saved for the less favored school organizations and for the following up of special leads.

4. *Assigned School Teacher.* The local superintendent is asked to assign one school teacher to the clinic while it is conducting the examinations. This school teacher gives the school tests as outlined in the discussion of "School Tests."

5. *The School Nurse.* The school nurse has duties which vary in accordance with the organization of the particular school visited. Where the school nurse has had intimate contact with the parents of the children and has home-visiting as one of her duties, it is advisable to make use of this already developed contact with parents and to have the nurse obtain the social history.

6. *The Visiting Teacher.* The visiting teacher, because of her familiarity with the homes of the children, is a great help wherever available. She assists in obtaining the history and, because of her previous contacts, is very valuable in this work. She may assist in other phases of the examination, depending upon the administrative scheme of the school visited.

It might be well to repeat that no set routine can be outlined in reference to the duties of individuals provided by the local school system. There may be no school nurse or visiting teacher. In this case the work must be taken care of by the clinic itself. One or the other may be available. It is necessary to suit the routine to the possibilities presenting themselves. Progressive school superintendents are more than interested in this work and do everything possible to aid the clinic. Others feel that the clinic, although conducting examinations of their children without cost to the school or town itself, should do the work without assistance. In the first instance the work will proceed very rapidly and the clinic will be able to complete the examinations in a minimum amount of time. In the second instance there will be considerable delay. We have found, however, that the greater proportion of superintendents belong in the first group and are extremely cooperative and appreciative of this service.

As mentioned before, the forms of the Fernald Ten-Point Scale Examination are loose-leaf. This makes it possible to distribute the various parts of the examination to the persons conducting particular portions of the test.

We feel that it is very important to mention the advisability of bringing the school personnel into the clinic work as much as possible. A tactful clinic leader will endeavor to create interest on the part of the school authorities by drawing them into the examinations and making them feel that their work is a constructive part of the examination. After a few years' observation of the helpful results of the school clinic work, the school authorities become the staunchest supporters of the traveling school clinic idea. At first, however, it was necessary to do everything possible to gain their cooperation and interest. Having them play a part in the clinic examination itself is probably one of the best methods of effecting this result.

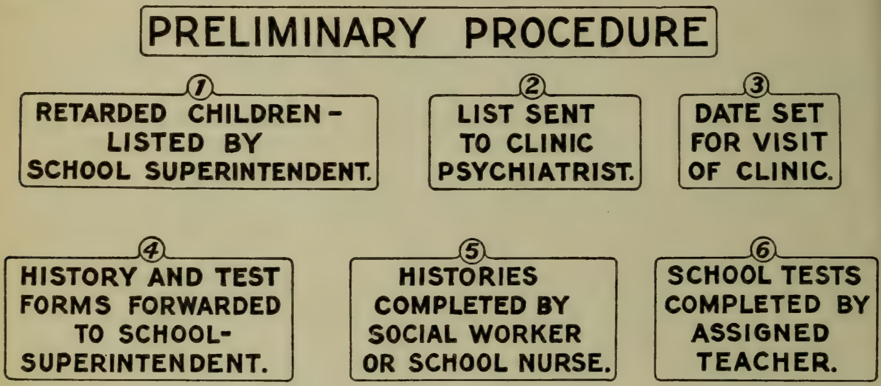
On rare occasions it has been found advisable to change the person in charge of the clinic. The contact which this person makes with the public school is of such serious importance in the development of a mental hygiene program that a tactless individual who makes difficulties instead of preventing them should not be continued. This applies to the psychologist and the social worker as well. The mother who has to face the realization of mental disorder in her child has enough of an ordeal to bear without being handled in anything but the most tactful and gentle manner by the person conducting the examination.

The Central Department of Mental Diseases has made a practice of giving instant recognition to the complaints coming to its attention. In fact, a thorough investigation is made of all facts of the case and these facts are placed before the Commissioner for action. We are happy to say, however, that in the 16 years of operation of the clinic system such action has been necessary in only a few scattered instances.

Preliminary Procedure of Clinic Operation

We now turn to the actual operation of a traveling psychiatric school clinic. For the sake of simplicity this will be divided into two parts: (a) Preliminary Procedure, and (b) Final Procedure.

The preliminary procedure is outlined briefly as follows (Graph III):


PRELIMINARY PROCEDURE
①
RETARDED CHILDREN - LISTED BY SCHOOL SUPERINTENDENT.
②
LIST SENT TO CLINIC PSYCHIATRIST.
③
DATE SET FOR VISIT OF CLINIC.
④
HISTORY AND TEST FORMS FORWARDED TO SCHOOL-SUPERINTENDENT.
⑤
HISTORIES COMPLETED BY SOCIAL WORKER OR SCHOOL NURSE.
⑥
SCHOOL TESTS COMPLETED BY ASSIGNED TEACHER.

Graph III

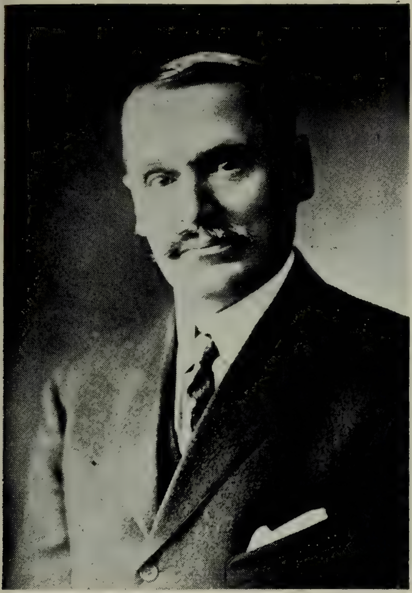
1. *Retarded Child Listed by School Superintendent.* It is a practice of the clinic psychiatrist to write to the school superintendent before the beginning of the school year and request that the list of retarded children be sent to him as soon as convenient. The school superintendent then goes over all the children in his school and selects all children 3 years retarded by grade, children "appearing to be" 3 or more years retarded. Other children presenting lesser degrees of retardation or specific conduct problems may be included. In these instances the permission of the parents for the examination must be obtained.

2. *List Sent to Clinic Psychiatrist.* The completed list reporting the chronological age, present grade and any other pertinent data in reference to each child is then sent by the superintendent to the clinic psychiatrist. This gives the psychiatrist an idea of the types of cases which are to be examined and enables him to estimate the time which these examinations will require and the time which the clinic will spend at that particular school.

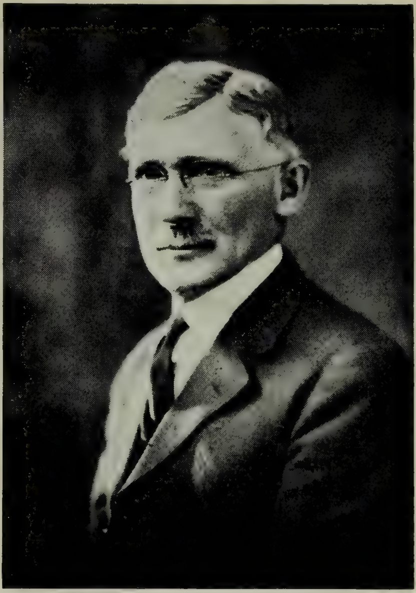
3. *Date Set for Visit of Clinic.* When the clinic psychiatrist has before him the volume of work which must be completed he arranges his time schedule and sets a date on which the clinic will visit the particular school concerned. If the school superintendent makes a request to have the clinic at a certain date, every effort is made to cooperate. The psychiatrist informs the superintendent as to when the clinic will arrive and outlines the detail of the examination. When the clinic is visiting a school for the first time it is to be advised that the psychiatrist or social worker make a preliminary visit to the school and outline for the superintendent the manner in which the various details of the examination are to be carried out.

4. *History and Test Forms Forwarded to School Superintendent.* The school test forms are forwarded to the superintendent previous to the visit of the clinic. Whenever possible we ask to have the school tests completed and available when the clinic arrives. In situations in which the histories are to

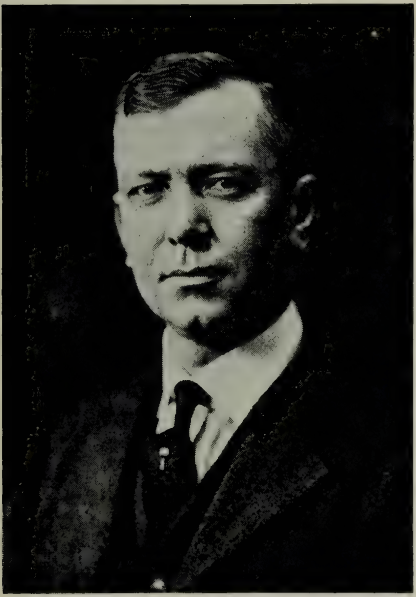
LEADERS IN THE ESTABLISHMENT OF THE TRAVELING PSYCHIATRIC SCHOOL CLINIC PLAN IN MASSACHUSETTS



WALTER E. FERNALD, M. D.
Former Superintendent
Walter E. Fernald State School



GEORGE L. WALLACE, M.D.
Former Superintendent
Wrentham State School



GEORGE M. KLINE, M.D.
Commissioner
Department of Mental Diseases

PAYSON SMITH, Ll. D., Litt.D.
Ed. D.
Commissioner
Department of Education

be obtained by the school nurse or the visiting teacher these forms are forwarded also. This part of the procedure makes it possible for a considerable portion of the work to be completed before the actual arrival of the clinic.

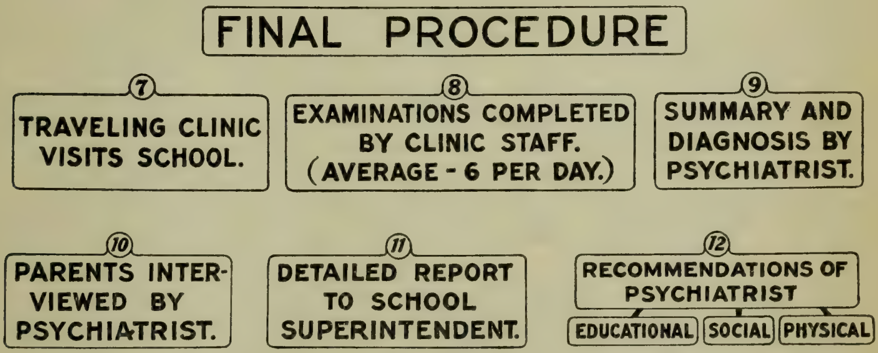
5. *Histories Completed by Social Worker or School Nurse.* If a school nurse or visiting teacher is available for the taking of histories, a special request is made that the information be obtained before the clinic arrives on the scene. It may be well to say that, in this event, the school nurse or visiting teacher is instructed during the preliminary visit of the psychiatrist or social worker as to the exact information desired. Whenever a school nurse or visiting teacher is not available, the social worker of the clinic proceeds to visit the school to obtain the preliminary data and investigate the social histories. Sometimes it is impossible to obtain these until the clinic has completed its visit. This is particularly unfortunate as it delays the forwarding of the diagnosis and recommendations, but at times it is unavoidable. A great effort is made, however, to preserve the clinic routine in reference to histories as outlined in the first part of this section.

6. *School Test Completed by Assigned Teacher.* Some schools prefer to wait until the clinic visits the school before assigning a teacher to the clinic work. In this case the school test material is gone over with the assigned teacher and she then completes the school tests on all children to be examined during the visit. Detailed instruction sheets for this test are available.

As mentioned before, the above outline presents the proceedure which has proved to be most successful. Other situations arise which make it necessary to have the clinic routine conform to local conditions. These are met with in the best manner possible, depending upon the particular situation.

Final Procedure of Clinic Operation

The final procedure (Graph IV) has to do with the actual visit of the clinic itself and insofar as these details are continuous they are numbered as following the outline of the "Preliminary Procedure."


FINAL PROCEDURE
⑦
TRAVELING CLINIC VISITS SCHOOL.
⑧
EXAMINATIONS COMPLETED BY CLINIC STAFF. (AVERAGE - 6 PER DAY.)
⑨
SUMMARY AND DIAGNOSIS BY PSYCHIATRIST.
⑩
PARENTS INTERVIEWED BY PSYCHIATRIST.
⑪
DETAILED REPORT TO SCHOOL SUPERINTENDENT.
⑫
RECOMMENDATIONS OF PSYCHIATRIST
EDUCATIONAL
SOCIAL
PHYSICAL

Graph IV

7. *Traveling Clinic Visits Schools.* On the date appointed the traveling clinic personnel appears at the individual school and is assigned quarters by the school superintendent. Wherever possible a location in the quieter portions of the school is highly desirable as all of the tests are much more satisfactory when the child and the examiner can be alone and uninterrupted. The coming of a clinic should be attended with as little commotion as possible and the examination should not be made into any unusual procedure. The best results are obtained when the clinic examination is treated simply as a special form of test, and everything should be done to prevent any obvious

singling out of the retarded children. The psychiatrist should be given opportunity for a private interview with the child which should not be hurried under any circumstances.

8. *Examinations Completed by Clinic Staff.* We have found that the clinics can complete an average of six examinations per day. This is possible only because of the fact that several persons are working on different parts of the examination at the same time. Thus, the psychiatrist, psychologist, social worker and assigned teacher can be engaged with four different children at the same time. Of course, difficult cases are encountered at times and it is not possible to maintain this working average. No attempt is made to hurry the examinations, and if extra time is required it is taken. In some cases this means that the visit of the clinic to the next town on the list may be delayed for two or three days. A letter is then written apprising the other superintendents of the necessary change, and arrangements are made accordingly. Some clinics arrange their time so that they plan to work but four days a week. This makes available an extra day in the event that the clinic work is delayed for any reason. As has been said before, no effort is made to hurry the examination. Quite frequently it takes more than a single day to complete the work on a specific case. Nevertheless, the volume of work to be done is so arranged that all members of the clinic are occupied throughout the day.

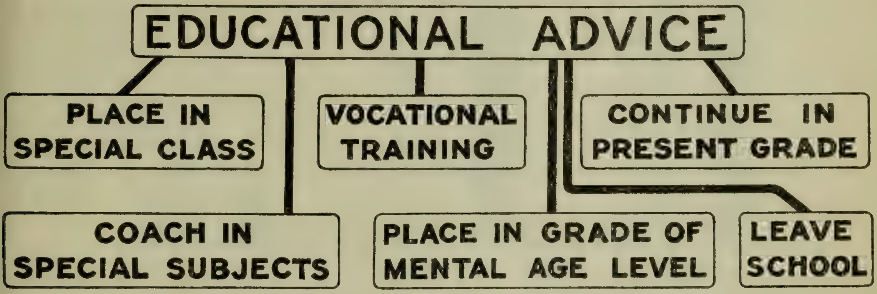
9. *Summary and Diagnosis by Psychiatrist.* When the entire examination has been completed, the results of the various tests are assembled by the psychiatrist and a diagnosis made. This diagnosis does not depend upon the results of any one test, but is the result of a complete survey of the child's life. It does not begin with his birth, but goes even further back to the factors of heredity, pre-natal influences, existing birth conditions, complete history of life from birth to the age of 6 years, school development, personal characteristics and general reactions to environmental stresses. A diagnosis made in less complete information would not be worth the paper upon which it was written. However, even with this complete information available it is sometimes difficult for the psychiatrist to reach a conclusion. In about 5 per cent of all cases examined the diagnosis is deferred until a subsequent visit of the clinic.

10. *Parents Interviewed by Psychiatrist.* Whenever it is possible the parents are interviewed and an effort made to acquaint them with the results of the examinations. This is one of the most important points in the clinic procedure. Parents must appreciate their responsibility with regard to future adjustments which may be necessary for the child's well being and progress. In many cases the psychiatrist finds that the parents have been more at fault than the child. In these situations a personal interview is the only possible way to clear up the difficulties and outline a method of procedure for the future. Without venturing any criticism, it may be said that some parents seem too willing to place the entire responsibility for the child's education upon the school system. Many have a singular lack of understanding of their personal responsibility in the child's success or failure in school work. The interview with the parents is of the utmost importance and should be stressed in every case. The school authorities are able to proceed with far greater confidence in their plans for the correct placement of the individual child if the parents fully understand the intent, purposes and results of the examination. Unhappily many parents have tried for years to avoid facing the fact of mental retardation in their child. The greatest value of the interview is to impress upon their minds the exact mental status of the child and to stress the need for *parental* aid and guidance in the child's adjustments.

11. *Detailed Report to School Superintendent.* At the conclusion of the examination a complete report is made to the school superintendent. For obvious reasons the facts in reference to the family history and details of heredity are omitted. In addition to the typed 5 x 8 card which contains this information a copy of the correlation chart is included (Graph VII). This places before the superintendent the findings of the various portions of the examination, and contains recommendations not only in the educational field but the social aspects of the findings and the results of the physical examination as well. Usually these cards are filed in the superintendent's office. Where the child has been recommended for a special class, the copy of the correlation chart is placed in the hands of the special class teacher. This enables the teacher to observe at a glance the standing of the child in his various school subjects, and indicates the high points in his accomplishment and the subjects in which he needs special coaching.

12. *Recommendations of Psychiatrist.* The recommendations of the psychiatrist comprise the final stage in the examination. Insofar as this phase of the examination is of great importance it will be discussed briefly, and the recommendations outlined according to the classifications into which they fall.

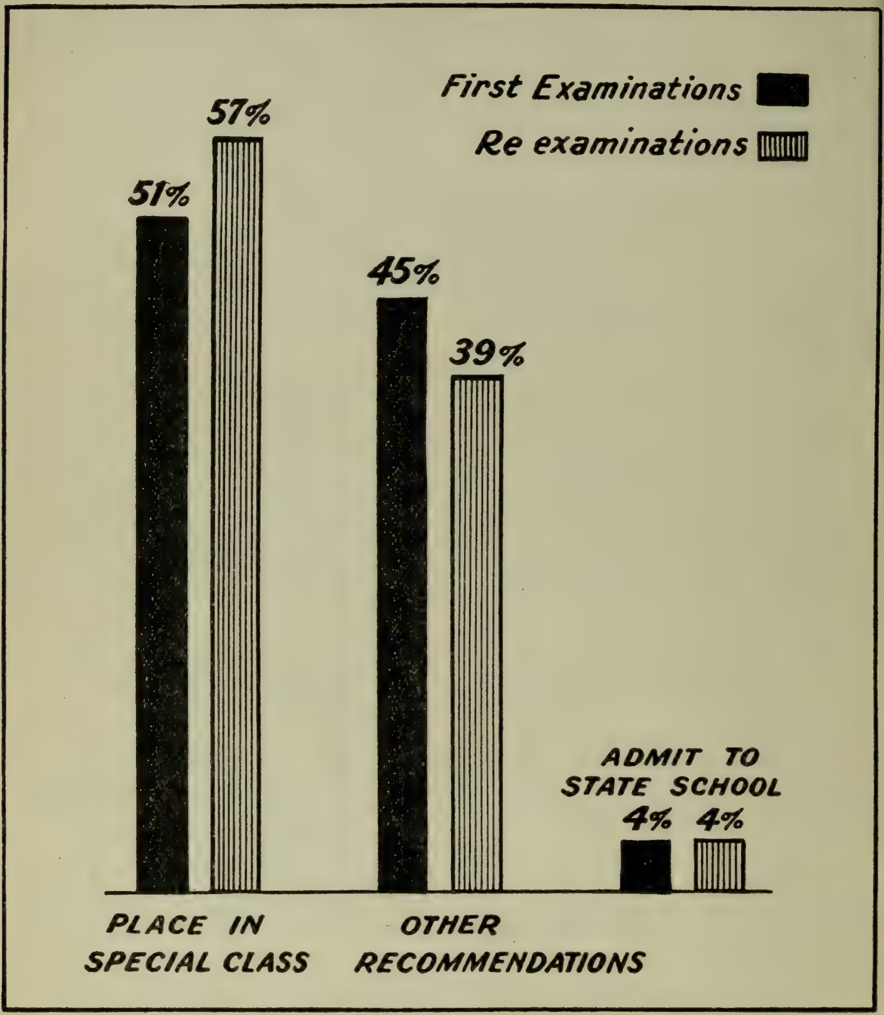
(a) *Educational Field.* Educators are particularly interested in one problem: What are we to do with this retarded child? He has not shown satisfactory school progress. What is the best way of handling the problem? In Graph V are outlined some of the commoner forms of advice given under this heading. It is impossible to give other than a very general view of the type of advice given, as each case presents individual differences. Thus the recommendations will necessarily differ. These general statements are given as a means of outlining the approach to the problem of educational advice and can in no manner be considered as specific.


EDUCATIONAL ADVICE
PLACE IN SPECIAL CLASS
VOCATIONAL TRAINING
CONTINUE IN PRESENT GRADE
COACH IN SPECIAL SUBJECTS
PLACE IN GRADE OF MENTAL AGE LEVEL
LEAVE SCHOOL

Graph V

In approximately 50 per cent of cases coming up for examination the educational advice is "Place in special class." It is rather surprising that this percentage is not larger. Nevertheless, it is satisfying to observe that a blanket solution is not being used for all problems presented to the clinics. Nearly half of the cases referred for examination may be by placement in special classes.

PSYCHIATRISTS' RECOMMENDATIONS, FIRST EXAMINATIONS AND RE-EXAMINATIONS, 1930.



Graph VI

Graph VI gives the psychiatrist's recommendations in reference to special class placement for the year 1930. Among the 5,224 first examinations we note that 51 per cent were recommended for placement in special classes. Of the 1,303 re-examinations, 57 per cent were recommended for special classes. The recommendations for special class care are higher in the re-examinations owing to the fact that adjustments previously recommended could not be effected and a special class placement became necessary finally. It is rather surprising that but 4 per cent of both first examinations and re-examinations were recommended for admission to a State school for mental defectives. This shows that the public school retardate does not possess the characteristics which have been considered necessary for admission to an institution. It also shows clearly that retardation in our public schools is primarily an educational problem and not an institutional problem. It is rather encouraging to note that recommendations other than admission to a State school or placement in special class made up 45 per cent of the total recommendations among the first examinations, and 39 per cent of the total among the re-examinations. This means that other forms of adjustment were possible in a large percentage of cases. The factor of this large percentage of borderline cases hovering between the average school grade and special class placement clearly indicates the necessity for *flexibility in the school curriculum for the various grades.* A rigid routine was entirely unsuited to the needs of these children. We have demonstrated here *the great need for a course of study and an administrative method suited to individual deviations and not one which will force all children into a standard routine.*

In certain cases the solution is made by placing the child in a grade to suit his mental age level. It should be remembered that while we are dealing in the main with children three years retarded, the clinics also have the privilege of examining children of lesser degrees of retardation if the permission of the parents has been obtained. Children with retardation of less than three years may present situations which are less serious, and an adjustment is sometimes made by dropping the child back one grade or possibly two grades. Again it must be remembered that the characteristics of the individual case determine the advice to be given.

Some children present a decided imbalance in their acquirement of school knowledge and need coaching in special subjects. We quite often find children who are doing fairly well and who may even show an acquirement of school knowledge above their mental age level in certain subjects. In other subjects, however, they are decidedly below the expected degree of accomplishment. The mentally deficient tend to show a surprising imbalance in their acquirement of school knowledge. We can strike general averages for accomplishment but we find that these are only approximate and do not give us a picture of the situation as a whole. This tendency to be high in one subject and low in another makes it possible in cases of lesser degrees of retardation to keep the child in school classes with a little extra work on subjects in which he has difficulty. He should be kept in regular school classes if there is any likelihood of his succeeding even after considerable adjustments have been made.

The imbalance in acquirement of school knowledge is outlined for a specific case in Graph VII. This case was selected at random, and presents several unusual characteristics. This boy presented a chronological age of 12 years, and under normal conditions would be found in the seventh grade. He had a mental age of 8 years, an intelligence quotient of .66, and was placed in the second grade. In his school subjects, however, he could do second grade work in spelling and language, third grade work in reading and in geography, and fourth grade work in arithmetic and writing. Here we have the rather unusual situation of a mentally defective boy placed in a school grade which was definitely under his potentialities. That is, he could do second grade work in two subjects, third grade work in another two subjects, and fourth grade work in arithmetic and writing. This is rather an atypical case, however, as the great majority of cases are over-placed in school grade rather than under-placed. Although this boy had never progressed beyond the second grade, he had acquired knowledge in his school subjects which enabled him to pass third grade tests in reading and geography, and fourth grade tests in arithmetic and writing. A copy of the correlation sheet as

Form 3.

D. M. D. Form A-101

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DEPARTMENT OF MENTAL DISEASES

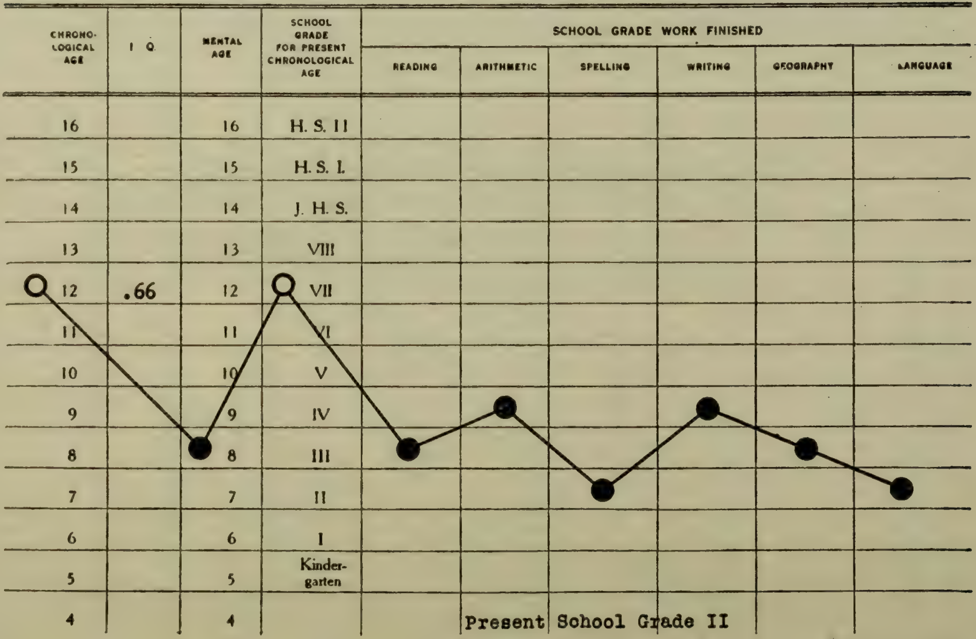
SCHOOL CLINIC RECORD

CORRELATION OF CHRONOLOGICAL, MENTAL AND SCHOOL AGE

NAME DOE, JOHN

DATE May 14, 1931

NO. 1013



Present School Grade II

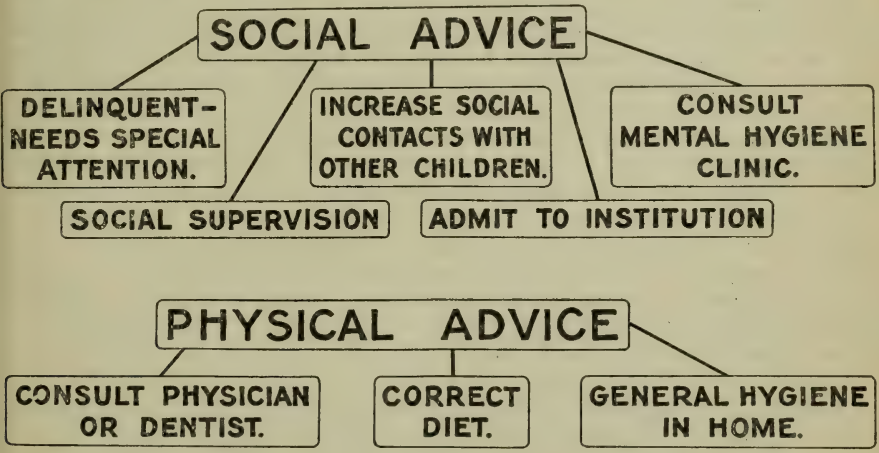
GRAPH VII

outlined in Graph VII is presented to the superintendent with the detailed report of the examination. This chart is of particular interest to the teacher who takes charge of the boy in readjusting his school work.

Some children seem to have great difficulty in making continued progress in the regular school curriculum. It is highly advisable that these children be given training with the thought of preparing them for the time they will leave school. Again we encounter certain definite types who are particularly unsuccessful with the regular school work but seem to be unusually well qualified for manual training and work of a mechanical nature. As mentioned before, the high points in the child's characteristics should be developed to their utmost. If he shows interest and any degree of accomplishment in vocational work, develop this trend and waste no further time and effort on the standard school subjects corresponding to his mental age.

A certain number of children are encountered who are obviously not adjusted in school. They may be large, well-developed, and may have absorbed all that the school has to offer in vocational training. If the personal characteristics are such that there is a good chance of the child's getting along in the community it is often best to advise that he leave school and attempt to secure employment or be occupied at home or in his father's business. Many of these cases are obviously misplaced in school and yet have such excellent general characteristics that community adjustment appears to offer the greatest chance for success. The great hulking boy of 15 who loves to work on a farm makes little progress and is decidedly unhappy when kept in a special class with younger and smaller children. The above problem does not present itself in the larger cities where the opportunity for rigid classification of special class pupils by chronologic age and sex is present. The smaller schools, however, and they are in the vast majority, find this problem of classification a very difficult one.

(b) *Social Advice.* Again it is difficult to present any particular types of social advice which are used more often than others. However, there are several which are of particular value and will be mentioned with the reservation that they cover but a small section of the field.


SOCIAL ADVICE
DELINQUENT—NEEDS SPECIAL ATTENTION.
INCREASE SOCIAL CONTACTS WITH OTHER CHILDREN.
CONSULT MENTAL HYGIENE CLINIC.
SOCIAL SUPERVISION
ADMIT TO INSTITUTION
PHYSICAL ADVICE
CONSULT PHYSICIAN OR DENTIST.
CORRECT DIET.
GENERAL HYGIENE IN HOME.

Graph VIII

The crying need at the present time is for social supervision of the retarded child. This is not necessary in all cases, but the psychiatrist repeatedly meets situations in which the lack of parental interest and understanding plays such a large part in the child's lack of adjustment that some means of social supervision is an urgent necessity. The visiting teacher is the obvious answer to this troublesome problem, but she is available in only a few schools at the present time. In some school systems the school nurse has been trained to exercise a certain amount of supervision. This is good as far as it goes, but it does not go far enough. The fact which faces us is this: Many children are falling behind in their school classes because of the fact that they lack a little intelligent interest in their lives. At the present time there is great need for an adequate follow-up of all retarded children, and particularly children in special classes. This, of course, should include the equally important problem of the supervision of retarded children after they have left special classes. It may be of interest to know that there is a bill before the Massachusetts Legislature at the present time which will provide for an investigation into the feasibility of establishing some means for social supervision of special class pupils and social supervision of children leaving special classes up to the time that they reach 21 years of age. These great needs have become so obvious during the sixteen years of school clinic operation that it is felt that the time has arrived for the initiation of this work, expensive though it may prove to be.

There are certain types of children who show delinquent tendencies, and who need special attention. Here the social supervision must be more exact in its supervisory capicity. While the numbers coming in this group are rather small, it is felt that they present such potentialities for future difficulties that a great effort should be made while the child is young to guide his footsteps into the proper channels. The traveling school clinic has had the opportunity of seeing the child on subsequent visits to the school, and re-examinations are made quite frequently. However, such social supervision as is possible through an occasional visit by the over-worked social worker, the excellent work of the few visiting teachers available, and the rare situations in which the school nurse can be helpful in this capacity, do not begin to touch the needs of the problem as a whole. We desperately need a thorough-going organization, or at least additions to our present personnel in order to meet this trying situation.

It is almost impossible to discuss any of the phases of social advice without referring to the need of greater social supervision. We find that certain retarded children have a tendency to withdraw from the group and to isolate themselves to greater or lesser degrees. These children should be taught to increase their social contacts with other children. There should be greater opportunities for play and a more rounded out life of activity.

In all schools the psychiatric clinic finds certain types of children who present definite behavior problems or personality deviations which cannot be adjusted through any change in the educational program or through environmental or social readjustments. In a certain percentage of these cases we find it necessary to advise that the child be taken to the nearest mental hygiene clinic and kept under their supervision. All of the institutions under the Department of Mental Diseases have clinics scattered throughout the surrounding areas. It is not difficult to place the child on the books of one of these clinics and thus secure the benefit of advice and available social supervision. Certain types of children showing pre-psychotic episodes should by all means have the advice of the nearest clinic throughout the year.

As has been previously stated, a comparatively small percentage of retarded children are recommended for admission to a State school. For example, of all children examined for the first time during the year 1930 we found that 3.5 per cent of males and 5.7 per cent of females were recommended for institutional care. These figures are rather striking and show us at once the great gap between the retarded child in the public schools and the retarded child admitted to our institutions. The fact that we find mental retardation in our school children, and but 4.2 per cent of them need admission to a State school, shows the marked difference in type between the institutional retardate and the public school retardate.

(c) *Physical Advice.* The tendency of retarded school children to show an unusual number of physical defects was discussed previously. The physical condition of our children is such that 65 per cent of them are advised to consult a physician or a dentist immediately. While a considerable number of cases require dental care, the majority of children have physical defects for which the immediate care of a physician is advisable (Graph VIII)

The food habits of various racial groups and individual peculiarities in the outlining of diet quite often present situations which are frankly unbelievable. Many parents are quite surprised to learn that their child's diet is wholly unsuited to him and that his present physical situation is in any way dependent upon deficiencies in the preparation and variety of foodstuffs. One working mother gave her boy coffee and rolls for breakfast, and cake and tea for supper. These meals he took with her. She then gave him 35 cents with which to purchase his noon-day meal. This the boy expended on candy and ice cream. The mother was a little indignant when it was drawn to her attention that this diet was hardly suitable for an active boy of 12 years. In her opinion the fact that he was under-weight, under-nourished, feeling below par physically, and obviously failing in his school classes, could not be dependent upon his diet. Numerous other cases present rather startling facts in reference to the diet deficiencies in many homes which are considered as average or above average in other respects.

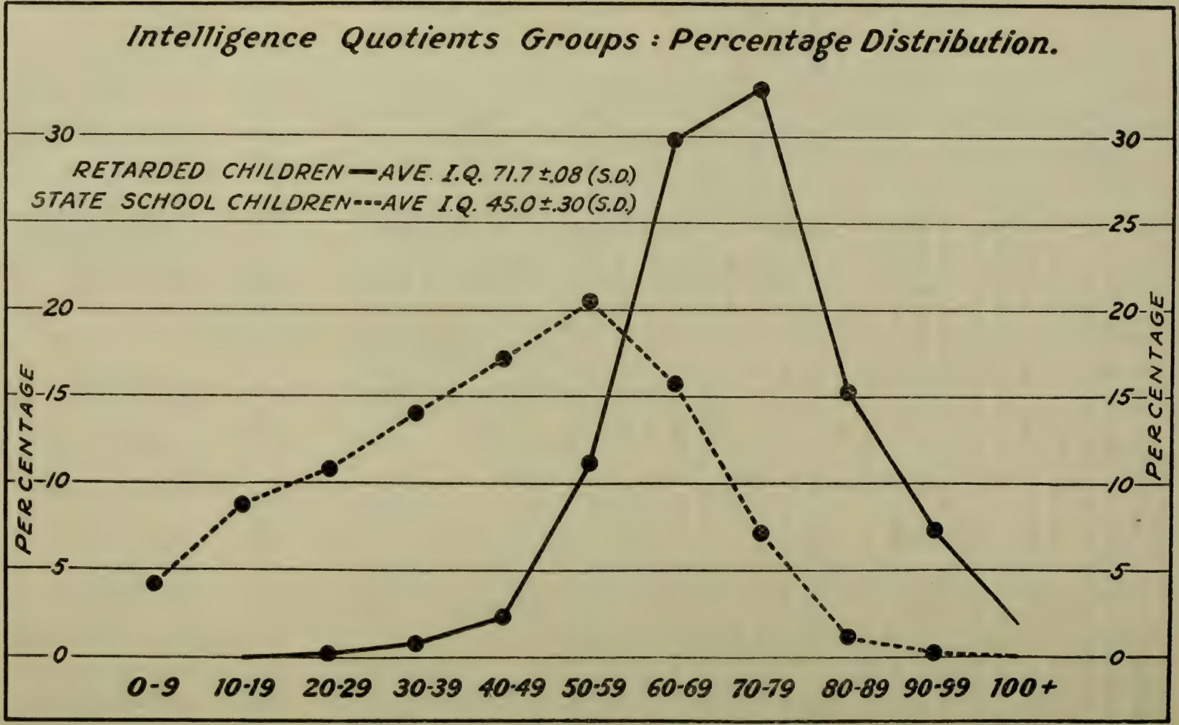
In dealing with retarded children, we are dealing with a social group which is somewhat below the average for the general community. Thus, it is quite within reason to expect that the general hygiene of the home may be below average. As a matter of fact, in many instances it is necessary to instruct people in the quite elementary rudiments of personal hygiene. In our modern and enlightened age it would seem impossible to find a home in which the tooth brush was unknown, or one in which such a common article as soap was practically non-existent. Yet this is not at all uncommon. It has been found advisable to take very little for granted but to find out the existing conditions and do everything possible to relieve or correct those which are having an inevitable effect upon the retarded child.

THE INTELLIGENCE OF RETARDED SCHOOL CHILDREN COMPARED WITH INTELLIGENCE OF CHILDREN IN STATE SCHOOLS

In the preceding section we mentioned the striking differences observed in the type of child examined by the traveling school clinics as compared with the type of child admitted to our State schools. The differences in personal characteristics as well as intelligence are very unusual. To discuss these personal differences would be decidedly beyond the scope of this communication. However, we wish to present a comparison between the intelligence quotients of children within State schools and the intelligence quotients of retarded children in the public schools.

Graph IX outlines this material on the totals and throws considerable light on the possible reason for these differences. The average intelligence quotient in the first examinations of 20,473 retarded children who were examined between 1921 and 1930 inclusive was 71.7–.08(S. D.). The average intelligence quotient of 3,941 children in residence in State schools on

INTELLIGENCE OF 20,473 RETARDED PUBLIC SCHOOL CHILDREN IN MASSACHUSETTS AND OF 3,941 CASES IN RESIDENCE IN MASSACHUSETTS STATE SCHOOLS ON SEPTEMBER 30, 1929.



Graph IX

September 30, 1929 was 45.0–.30 (S. D.). The difference between these two average intelligence quotients is 26.7 points of the I. Q. scale. The standard deviation of the difierence is —.31.

The intelligence quotients of children in State schools predominate in the I. Q. groups 0–.59 with the largest number, 20 per cent of cases, occurring in the I. Q. group .50–.59. Public school retardates, on the other hand, have intelligence quotients which predominate in the groups .60–.99 with the largest number, or 38 per cent of cases, occurring in the I. Q. group .70–.79. It is obvious that the State schools contain greater proportions of lower grade cases, while children presenting higher degrees of intelligence are within the public school systems. This graph shows us in a most convincing manner the cardinal differences between the two groups, or the radically different problem associated with retardation which must be met by the public schools. With 3,941 children filling our State schools to capacity, it is quite obvious that there is no room for an additional 20,000 now within the public schools. Dr. Fernald was one of the first to say that, to a large extent, the mentally retarded child must be a problem of education and that adequate provision for his school training should constitute one of the major problems of the field of education. Our facts support this statement in a most convincing manner.

Quite decided sex differences are noticed in both the State school and public school groups, (Table A). Among the State school children, males predominate in the I. Q. groups 0–.39, presenting 41 per cent as compared with 34 per cent for females. There is a shift in this relative position for the I. Q. groups .40–.69. Here the males present 48 per cent while the females present 58 per cent. Again there is a sex change in the I. Q. groups between .70 and 1.00, the males presenting nearly 10 per cent, and the females but 7 per cent. It appears then, that State schools have large proportions of low grade and high grade males and smaller proportions of the I. Q. groups between .40 and .70. The females, however, present relatively fewer low grade and high grade cases but a decidedly larger proportion of the middle grade cases with intelligence quotients between .40 and .70. It will be observed that the sexes are divided fairly evenly as to numbers. Of the 3,941 children in State schools in 1930, 1,980 were males and 1,961 were females.

The intelligence quotient distribution of the two sexes among the public school retardates also shows marked differences. In this group large proportions of females are found in the low I. Q. groups. We note that the males present 41 per cent in the I. Q. groups between .20 and .69 as compared with 50 per cent for the females. That is, it appears that as far as our public school retardates are concerned the females show a greater amount of mental defectiveness (feeble-mindedness) than do the males. For the I. Q. groups .70 and 1.00 we note that the males present 58 per cent as compared with 50 per cent for the females. It would seem that more males of high mental grade have difficulties in the public schools than females of comparable mental ratings.

In considering these results it must be recalled that the sexes are not evenly divided as they were in the State school cases. Of the 20,473 retarded children 13,296 were males and 7,177 were females. It has been suggested that the boys present more conduct problems than the girls and that these behavior difficulties contribute to their retardation in school, the result being that correspondingly larger numbers of males are referred to the clinics for examination. If conduct in itself is the answer, it is rather surprising that a larger number of males are not recommended for institutional care.

TABLE A. — *I.Q. Distribution in 20,473 First Examinations of Retarded School Children, 1921–1930, and in 3,941 Children in Residence in All State Schools September 30, 1929, by Sex.*

		Intelligence Quotient Distribution												
		First Examinations of Public School Retardates												
		Total	0–9	10–19	20–29	30–39	40–49	50–59	60–69	70–79	80–89	90+	Average	S. D.
Male	Number	13,296	–	–	40	90	285	1,348	3,719	4,442	2,236	1,136	72.7	±.11
	Per Cent	100.0	–	–	.30	.67	2.14	10.14	28.00	33.42	16.83	8.54		
Female	Number	7,177	–	–	20	80	201	957	2,394	2,259	893	373	70.0	±.14
	Per Cent	100.0	–	–	.26	1.11	2.80	13.32	33.38	31.48	12.45	5.0		
Total	Number	20,473	–	–	60	170	486	2,305	6,113	6,701	3,129	1,509	71.7	±.08
	Per Cent	100.0	–	–	.29	.83	2.36	11.27	29.87	32.77	15.29	7.34		
		Intelligence Quotient at Admission, All Cases in Residence in State Schools												
Male	Number	1,980	82	210	233	302	318	364	277	157	32	5	44.0	±.44
	Per Cent	100.0	4.14	10.61	11.78	15.25	16.06	18.37	14.00	7.93	1.61	.25		
Female	Number	1,961	86	136	195	253	356	446	344	125	17	3	46.0	±.42
	Per Cent	100.0	4.38	6.93	9.94	12.90	18.16	22.76	17.55	6.37	.86	.15		
Total	Number	3,941	168	346	428	555	674	810	621	282	49	8	45.0	±.30
	Per Cent	100.0	4.26	8.28	10.86	14.08	17.10	20.55	15.75	7.15	1.24	.20		

FARM DORMITORIES
Wrentham State School

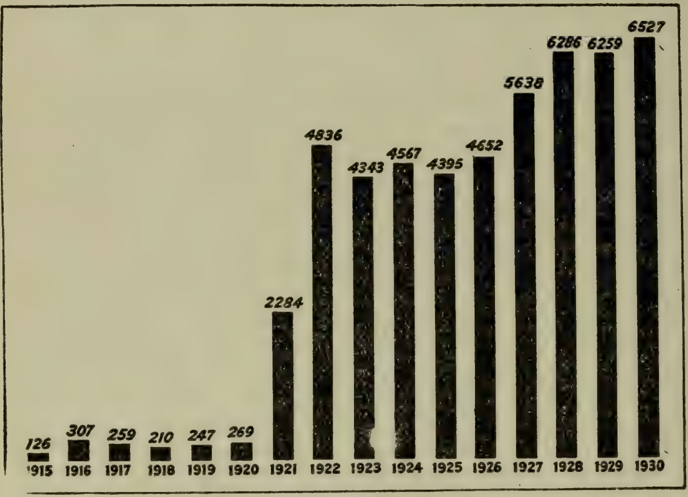
In 1929, for example, 2.8 per cent of all first examinations of males were recommended for admission to a State school while 4.1 per cent of females were recommended. It may be assumed that environmental and social stresses are the same for both sexes. With conduct and environment playing lesser roles in this sex difference we are forced to turn to other possibilities. There appears to be some factor in the characteristics or adaptability of males which renders their adjustment to the school curriculum more difficult than for the females. There is a possibility, of course, that the school curriculum, or the scheme of school administration, may be better suited to the needs of girls than boys. Whatever the cause, boys seem to find it more difficult to adjust to the life period spent within the public schools, and they become retarded in school work in practically a 2:1 ratio as compared with girls.

GROWTH OF SCHOOL CLINIC MOVEMENT

Every activity which renders a public service is faced at one time or another with the question "Are we covering the field adequately? Are the greatest number of persons possible receiving benefit from our contribution?" New social activities have two courses open to them. They may decide to cover a large field and project their services to every person needing help, or they may take the narrower course of action and decide to present a specialized type of service to a few highly selected cases. The question of policy in this situation is an extremely important one. In providing a service for the examination of retarded and problem children it is very necessary that a plan be adopted which will insure the extension of the clinic service to every child needing this examination. Many clinics start out with the best of intentions but become so enmeshed in the details of a complex examination that a restriction of the scope of their activities is inevitable. The passion for completeness of detail is very commendable. However, the practical side of the question must be considered. At the present time we find the almost universal acceptance of the thought that the ideal for a child clinic should be the thorough and complete examination of a few cases. This spirit is laudable, but unhappily it does not tell the story of thousands of children who desperately need the help of that clinic and who, because of the avowed administrative policy, cannot receive it. Thus, we see clinics devoting months to the study of a single case and costs running up as high as $500 per child examined. This method and the attendant expenditures would be justified if worthwhile results could be guaranteed. However, to our surprise we cannot find that these clinics are showing any better results than others. In dealing with children this is not hard to understand. The complex assortment of characteristics found in the average child plus the infinite variety in environmental pressures rarely result in a single fixed problem but rather in a bewildering kaleidoscope of fading and newly developing problems which change from month to month — we may say from day to day. The problem which was settled satisfactorily last week may have no relationship whatsoever to the problem which is to develop next month. Thus, the application of a static methodology to a dynamic problem may provide improvement in the problem of the moment, but no guarantee of protection from future difficulties. The answer lies in the providing of a continuation of service. We must be ready to help again and again as new problems arise; to provide a life-long supervision if necessary and not a concentration of interest for a few months only.

When the clinic of the Walter E. Fernald State School first examined 126 cases in 1915 it is doubtful if Dr. Fernald foresaw that this problem would expand itself in such gigantic proportions that machinery would have to be devised to examined over 6,000 retarded children each year. But he did not set out with any preconceived idea that his work was to be confined to a small, highly specialized field. His plan was to examine *all* retarded children, and when he said this he meant every retarded child in the public schools of Massachusetts. When he saw that his own clinic could cover but a small field he created the organization to provide a State-wide examining system to function throughout the public schools of the Commonwealth. This was no small task. He standardized the examination which, while complete and covering all fields, was not so complicated as to burden the personnel with irrelevant details or to make the examination so complicated that its cost would be prohibitive.

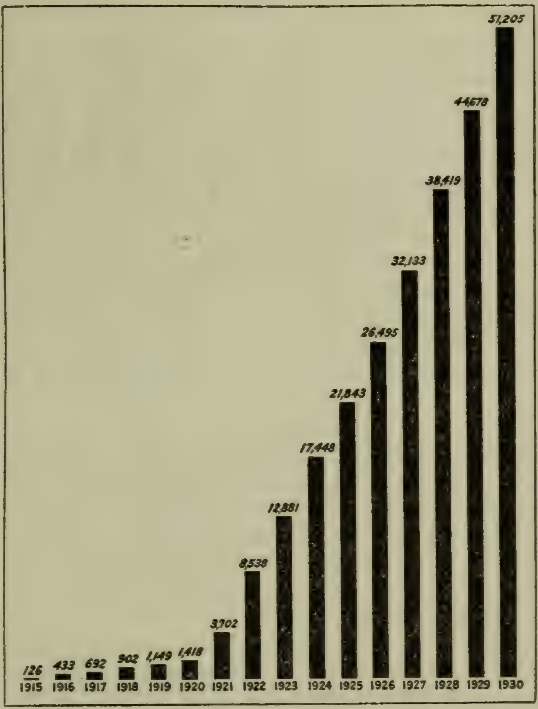
As stated before, the first traveling clinic in Massachusetts became operative on December 15, 1914. During the remainder of that year and 1915, 126 cases were examined. As the movement gained impetus still larger numbers were examined. Graph X outlines the total examinations for each year for the period 1915–1930. In March, 1921, twelve additional clinics were added to the two already operative, and we see an increase in the number of examinations to a total of 2,284 for the year. Between 1921 and 1930 the number of examinations increased rapidly to 6,527 for the year 1930. These increases have far exceeded the natural growth which would be expected by normal increases in the school population. In reviewing Graph X we notice that the number of examinations seems to be more or less stable since 1928. It would appear that something over 6,000 examinations of retarded children per year is to be expected by our clinic system in Massachusetts in future years. In other words, approximately 1.5 per cent of our grammar school populations will be referred to clinics each year because of retardation. The public schools themselves face the problem of having to provide special classes for approximately 3,000 children each year. Because of the large numbers of children coming up for examination we see the tremendous size of the problem. We cannot say that the needs of any portion of these retarded children are greater than the needs of any other part. The entire group is made up of children who are having difficulties in adjusting to school life, and all are in need of and deserve the same degree of consideration if we are to preserve our ideals of justice or impartiality in the distri



GRAPH X

Number of School Clinic Examinations, 1915–1930 bution of public moneys. Social betterment depends upon the elevation of the mass and not upon the elevation of selected individuals or components of that mass. It must be conceived on the broad basis of help and guidance for all. Social planning of the right type incorporates as a cardinal principle the thought that all individuals have the right to be assisted to their highest level of accomplishment. True leadership consists in teaching the many the way in which they may rise to a full realization of their powers and characteristics.

While the clinics during 1930 examined 6,527 children, it is evident that this is not all. The great majority of these children exhibited some degree of retardation. In addition there are many other problem children not coming under the scope of the school clinic law who need help and advice. It should be the function of the clinic to care for all types of problems brought to its attention. At the present time there is a bill before the Massachusetts Legislature amending the present school clinic law so that a school superintendent may refer any child to the school clinics whether or not retardation is present. This is one of the most progressive moves made by psychiatry in education for many years. It increases the scope of the traveling clinic tremendously by adding adjustment problems to the present duties.



Graph XI

Cumulative Graph of School Clinic Examinations, 1915–1930

Graph XI presents the total examinations conducted by all of the clinics during the period 1915–1930. This is cumulative in that it shows the total examinations which were completed at the end of any particular year. That is, at the end of 1920, 1,418 examinations had been completed; at the end of 1925, 21,843 examinations had been completed; while at the end of 1930, a total of 51,205 examinations had been conducted by our school clinic system. Some of these, of course, are re-examinations. We find that approximately 20 per cent of this total, or 10,000 examinations are re-examinations, and approximately 41,000 are first examinations. In a rather striking way this graph shows the magnitude of the problem of the retarded child within the public school, and demonstrates the great volume of work which has been accomplished by these clinics.

COSTS OF TRAVELING SCHOOL CLINICS

I understand that the citizens of Portland are thinking of establishing a highly technical child clinic at the present time. It is estimated that this clinic will be rather expensive. Insofar as I have been questioned repeatedly regarding the cost of operation of the school clincis, it may not be amiss to mention our findings in reference to expense. We are here giving the average cost of examinations under the school clinic system for 1928, 1929 and 1930.

Table B — *Average Cost of School Clinic Examinations for 1928, 1929 and 1930*

1928	*1929*	*1930*
$5.50	$4.95	$5.44

Table B outlines these data. This cost has not been calculated in detail, but includes the main items of expense. Expenditures for salaries, maintenance, travel, hotel, meals, incidentals, automobile expense and supplies are included. There is a small item in connection with clerical services which could not be included in the above item owing to the fact that it was confused somewhat with institutional duties, and an accurate time record had not been kept. It is safe to say, however, that the added expense would not increase the average more than fifty cents per examination. The total expense for the operation of fifteen clinics examining a total of 6,527 children during the year 1930 was $35,149.76. It should be recalled that this is for the operation of *fifteen* clinics and not one clinic. From the financial viewpoint it seems that the school clinic system is not unduly costly nor does it result in financial expenditure which could be considered at all unreasonable.

SUMMARY

I. The present high position which Massachusetts occupies in the care of the mentally deficient is due largely to the pioneer work of Dr. Walter E. Fernald. Over thirty years ago he realized the urgent need for public recognition of the problem of mental defect and the necessity for early diagnosis of cases showing mental retardation. His first plan was the creation of an out-patient department at his school in Waverley to examine, diagnose and render advice in cases referred from the community.

With the growth of knowledge on the problem of mental deficiency educators began to look for some reliable method of diagnosing cases of retarded children in the public schools and appealed to Dr. Fernald for assistance. Dr. Fernald then conceived the thought of projecting his out-patient examination into the public school system, and devised a plan whereby his out-patient clinic would become a traveling unit and visit each school, conducting a comprehensive examination of the retarded children therein. The first of these units was inaugurated on December 15, 1914, and the second in 1917, under the late Dr. George L. Wallace.

II. Requests for the service of the clinics increased rapidly. The growing number of retarded children in the public schools showed that special provision was urgently needed. Through the cooperation of Dr. Fernald with the Department of Mental Diseases and the Department of Education, a law was enacted in 1919 legalizing the operation of the traveling clinics and *requiring* the establishment of special classes in each town having ten or more children who were three years retarded in school classes. In addition, the Massachusetts Department of Mental Diseases was given authority to conduct or supervise the examinations.

In 1921, traveling clinics were created to operate from each of the fourteen institutions under the Department of Mental Diseases. The personnel of these clinics was trained in the procedure of carrying out Dr. Fernald's "Ten-Point Scale Examination." Certain districts were assigned to each State hospital and State school in which their clinics should operate.

III. The "Ten-Point Scale Examination" consists of a series of loose-leaf forms. It presents a detailed picture of the retarded child, giving the sum total of his characteristics and reactions apart from his intelligence. The factors studied are as follows:

1. Family History.
2. Personal and Developmental History.
3. History of School Progress.
4. Social History.
5. Personal Characteristics and Social Conduct.
6. Economic Efficiency.
7. Practical Knowledge.
8. School Work.
9. Physical Examination.
10. Psychological Tests.

IV. The personnel of the traveling clinic unit consists of a psychiatrist, a psychologist and a social worker. In addition, the school provides (1) a school teacher, (2) a school nurse, and (3) a visiting teacher, who assist in certain phases of the examination.

V. The method of procedure of the traveling school clinics outlines itself as follows:

1. *Listing of All Retarded Children by School Superintendent.*
2. *List Sent to Clinic Psychiatrist.*
3. *Date Set for Visit of Clinic.*
4. *History and Test Forms Forwarded to School Superintendent.*
5. *Histories Completed by Social Worker, School Nurse or Visiting Teacher.*
6. *School Tests Completed by Assigned Teacher.*
7. *Traveling Clinic Visits School.* A quiet section of the school is highly desirable for the conducting of the tests. The psychiatrist should be given the opportunity for a private interview with the child which should not be hurried under any circumstances.
8. *Examination Completed by Clinic Staff.* An average of six examinations per day are completed. No attempt is made to hurry the examination, and if extra time is required it is taken.
9. *Summary and Diagnosis by Psychiatrist.* When the entire examination has been completed the results of the various tests are assembled by the psychiatrist and a diagnosis made. It is not always possible for the psychiatrist to reach a conclusion, and in about five per cent of cases the diagnosis is deferred until a subsequent visit of the clinic.
10. *Parents Interviewed by Psychiatrist.* If possible the parents are interviewed, an effort made to acquaint them with the results of the examinations, and the importance of their cooperation in treatment is stressed. This is a vitally important part of the clinic procedure.

11. *Detailed Report of School Superintendent.* At the conclusion of the examination a complete report is made to the school superintendent stating the facts in reference to data reported from the examination. This gives the superintendent an outline of the findings of the various portions of the examination, recommendations in the educational field, the social aspects of the case and the results of the physical examination. If the child has been recommended for a special class a copy of the Correlation Chart, recording his ability in his various school subjects, is placed in the hands of the special class teacher.

12. *Recommendations of Psychiatrist.* These recommendations outline themselves in three separate classes:

(a) *Educational Field.* In approximately fifty per cent of cases the educational advice is "Place in special class." Approximately four per cent are recommended for admission to a State school for mental defectives. In certain cases the solution is made by placing the child in a grade to suit his mental age; by dropping the child back one grade or possibly two grades, depending upon the characteristics of the individual case; by coaching in special subjects; by recommending manual training and work of a mechanical nature; or by having the child leave school and secure employment.

(b) *Social Advice.* The urgent need at the present time is for more complete social supervision of retarded children, especially in those cases in which the lack of parental interest and understanding play such an important part in the child's lack of adjustment. In a certain percentage of cases presenting definite behavior problems or personality deviations it is recommended that the child be taken to the nearest mental hygiene clinic and kept under their supervision. Children showing pre-psychotic episodes are especially advised to visit these clinics.

(c) *Physical Advice.* Examinations of retarded school children show an unusual number of physical defects. Sixty-five per cent of these children are advised to consult a physician or a dentist immediately.

VI. A recent study of the intelligence quotient of 20,473 retarded school children and 3,741 cases in residence in Massachusetts State schools on September 30, 1929 has produced some interesting data. The average intelligence quotient of the 20,473 retarded children who were examined between 1921 and 1930 inclusive was 71.7. The average intelligence quotient of the 3,941 children in residence in State schools on September 30, 1929 was 45.0. The difference between these two average intelligence quotients is 26.7 of the I. Q. scale. State school children show higher percentages in the I. Q. groups 0–.59, while public school retardates have higher percentages in the I. Q. groups .60–.99. The State schools contain greater proportions of lower grade cases, while children presenting lesser degrees of retardation are within the public school system.

Interesting sex differences were observed in the above two groups. State schools have large proportions of low grade and high grade males and small proportions in the I. Q. groups between .40 and .70. Females in State schools present fewer low grade and high grade cases, but a very large proportion in the I. Q. groups between .40 and .70. In the public school retardates 41 per cent of males fall in the I. Q. groups .20–.69. as compared with 50 per cent for the females. In the I. Q. groups .70–1.00 males present 58 per cent as compared with 50 per cent for the females. More males of high mental grade have difficulties in the public schools than do females of comparable mental ratings.

VII. During 1915, the first year of operation of the Massachusetts traveling clinics, 126 cases were examined. In 1921, when clinics were created to operate from each of the State schools and State hospitals, the number of examinations increased to a total of 2,284 for the year. Since that time the rapid increase in the number of examinations has far exceeded the natural growth which would be expected by normal increases in the school population. In 1930 a total of 6,527 examinations were conducted. Since 1928 the total number of clinics examinations seems to have more or less stabilized itself around a total of 6,000 examinations of retarded children per year. If we take this as a basis, it is evident that approximately 1.5 per cent of our grammar school population will be referred to clinics each year because of retardation. The public schools find themselves facing the problem of having to provide special classes for approximately 3,000 newly diagnosed retardates each year.

VIII. Since the inauguration of our school clinic system in 1914 a total of 51,205 examinations of retarded children have been conducted. Approximately 41,000 of this total are first examinations, and 10,000 are re-examinations. These figures show the magnitude of the problem of the retarded children within the public schools, and demonstrate the volume of work which has been accomplished by the traveling school clinics.

SELECTIVE STERILIZATION*

By Harvey M. Watkins, M. D.
Superintendent, Polk State School, Polk, Pa.

Progress in the care of the mentally defective has been one of rather slow and gradual development. During the early years of this work the large and immediate issue was one devoted to segregation and custodial care, the first state-owned and state-financed institution being created at South Boston in 1848. Immediately the question of education and training became uppermost in the minds of the students of this work. Education gradually expanded from simply Seguin training until it embraced a well rounded training of both academic and industrial training. At a later period this educational scheme was broadened until it reached the public school system in general.

Going hand in hand with this development came increased need for a complete census of the defective. As this census was in its developmental stages, it was at once seen that the numerical problem of the mentally defective was greater than any one anticipated. It tended to point out the foci of defectiveness. It also showed the lack of appreciation on the part of the public that mentally defectiveness was a community problem as well as an institutional one. At a still later period it was found that there were a certain number of defectives who had been recognized early, given institutional training during formative years, who had benefited by all the training possible, who were orderly in their habits, social, well behaved, easily controlled, who might be parolled under suitable supervision of the institution.

In all of these various developments the late Dr. George L. Wallace took a most active part and particularly was he interested in the social reclamation and adjustment of this higher grade and more trainable group of children. His early reports, made almost twenty years ago, definitely showed his vision of social service and its need in this work. To read his annual reports is to follow the progress made throughout the entire field. Falling in the seeming midday of his useful and well spent life of service he leaves a void which remains unfilled. To us of the younger generation he was ever a friend and wise councellor. He blazed a trail which should ever be an inspiration to follow.

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*For complete annotated bibliography on sterilization for and against, I am greatly indebted to Frederick W. Brown, Director, Department of Informationa nd Statistics, National Committee for Mental Hygiene.

In addition to previous developments there is yet another avenue of approach which should command the attention of every student of welfare work, another step beyond social service work, beyond merely education and training and certainly far above the older means of segregation, namely, selective sterilization — which should be added to our present armamentorium in dealing with the mentally defective.

Wherever welfare subjects are discussed, wherever the mentally diseased or mentally defective are found, eventually the discussion leads to one concerning sterilization. Life Banquo's ghost, "it will not down".

An element of risk attaches to any effort to appraise impartially a movement while that movement is still in its somewhat more enthusiastic stage. One finds himself, in handling this subject, between Scylla and Charybdis.

Yet, after thirty years of experimentation with 10,500 recorded sterilizations, and with 50 per cent of the states in the Union having some sort of sterilization law on their statutes, it is well for every student of mental work to give careful consideration both to its good and its bad features.

The first sterilization law passed by an American legislature was that of Pennsylvania in 1905, it being vetoed by the Governor. The first law adopted was that in Indiana in 1907. The states of California, Washington and Connecticut enacted similar statutes in 1909. Following this, sterilization statutes were adopted in rapid succession by a number of states.[1] Up until June 1, 1931, the following twenty-five states had enacted sterilization laws.

Arizona
California
Connecticut
Delaware
Idaho
Indiana
Iowa
Kansas

Maine
Michigan
Minnesota
Mississippi
Montana
Nebraska
New Hampshire
North Carolina
North Dakota

Oregon
South Dakota
Utah
Virginia
Washington
West Virginia
Wisconsin
Oklahoma

Many of these laws were enacted without any apparent program or organized education and public opinion or demand back of them. They were frequently changed, revised, vetoed and amended, and in many instances falling into disuse.[2]

The most active law is that of California which has now been in continuous operation for twenty-one years, the total number of operations to date being approximately 7,000. The state law provides that asexualization may be applied upon the recommendation of the Superintendent of the institution caring for the patient in question with the approval of the director of the State Department of the institution and of the Director of the State Department of Health. It applies to inmates of institutions for the insane, mentally defective and to certain criminals as a pre-requisite to parole or discharge with or without consent of patients, although consent of relatives has always been obtained.

This experiment is well summed up in a recent book written by Gosney and Popenoe entitled "Sterilization for Human Betterment."[3] They state that they look upon this procedure as a protection and not a penalty. All mentally defective patients are now sterilized before they are allowed to

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[1] "Eugenical Sterilization — Historical, Legal and Statistical Review", Dr. Harry H. Laughlin, Cold Springs Harbor, Long Island, N. Y.

[2] "Social Control of the Mentally Deficient", by Dr. Stanley P. Davies.

[3] "Sterilization for Human Betterment", E. S. Gosney, B. S., L. L. B. and Paul Popenoe, D. S. .C

GENERAL VIEW, TRAINING YARD
Wrentham State School

leave the State Home at Sonoma. Of the 7,000 cases sterilized in the state of California, 1,500 were mentally defective and have been able to be paroled from the institution, which has resulted in an economic factor running into thousands of dollars, and has permitted the institutions to care for and to train a far greater number than would have been possible without the aid of sterilization.

It is further claimed that sterilization has not increased promiscuity and that results show that only one in twelve become sexually promiscuous after leaving the institutions, whereas nine in twelve were sexually promiscuous before being admitted. One hundred and twenty-five sterilized mentally defective girls were married. Two-thirds of those who could be located were judged to be successful in their marriage. The mentally defective, in the majority of cases, after training in an institution, were found able to get along in society and make their way when unhampered by childbirth and children. Dr. F. O. Butler, Superintendent of the Sonoma State Home, states: "Very little objection is made when the operation is fully explained; in fact, we frequently have requests for the operation from relatives before the subject is mentioned to them."

California's law has never been contested, and while I believe it is somewhat optimistic, yet it has pointed the way to other states to enact permissive legislation and to give closer attention to this important phase of the problem. While it has made little more than a gesture from a eugenic viewpoint, yet as a measure of control in individual cases it has proven successful both from an economic and parole viewpoint, and has created additional bed space in their institutions for increased training.

In only two states, namely Michigan and Virginia, has the sterilization law been declared constitutional by the State Supreme Court. In the latter state, Virginia, the law has also been declared constitutional by the Supreme Court of the United States. The Virginia case has attracted such wide attention it is well to make brief mention of it at this time.

The Supreme Court in the case of Buck vs. Bell presented the following: Carrie Buck, a mentally defective white woman, was committed to the State Colony for Epileptics and Feeble-minded of Virginia. She was a daughter of a mentally defective mother in the same institution and a mother of an illegitimate feeble-minded child. She was eighteen years of age at the time of the trial. An Act of Virginia, approved March 20, 1924, recited that "The health of the patient and the welfare of society may be promoted in certain cases by the sterilization of mental defectives under careful safeguards; that the sterilization may be affected in males by vasectomy and in females by salpingectomy without serious pain or substantial danger to life". The case was carried through the lower courts and was finally carried to the Supreme Court of the United States, and that body, speaking through Justice Holmes, said:

"We have seen more than once that the public welfare may call upon the best citizens for their lives. It would be strange if it could not call upon those who already sap the strength of the state for these lesser sacrifices, often not felt to be such by those concerned, in order to prevent our being swamped with incompetence. It is better for all the world if, instead of waiting to execute degenerate offspring for crime, or to let them starve for their imbecility, society can prevent those who are manifestly unfit from continuing their kind. *The principle that sustains* compulsory *vaccination is broad enough to cover cutting the Fallopian tubes.* Jacobsen vs. Massachusetts, 197 U. S. 11, 49 L ed. 642, 25 Sup. Ct. Rep. 358, 3 Ann Cas. 765. *Three generations of imbeciles are enough.*

But, it is said, however, it might be, if this reasoning were applied generally it fails when it is confined to the small number who are in the institutions named and is not applied to the multitude outside. It is the usual last resort of constitutional arguments to point out shortcomings of this sort. *But the answer is that the law does all that is needed when it does all that it can,* indicates a policy, applies it to all within the lines, and seeks to bring within the lines all similarly situated so far and so fast as its means allow. Of course, so far as the operations enable those who otherwise must be confined to be returned to the world, and thus open the asylum to others, the equality aimed at will be more nearly reached."

In order to obtain the opinion of the total members of the American Association for the Study of the Feeble-minded in 1930, a questionnaire was sent to its membership, numbering 317. This was followed up by a second questionnaire and on April 30, 1930, replies were received from 258, which represented 80 per cent of the total membership. Below is copy of the questionnaire sent.

1. Do you approve of sterilization of the mentally defective?
   Yes——————— No———————
   (If no, indicate your objections).
   A. In advance of public opinion.
   B. Difficulty of administration.
   C. Legal.
   D. Moral.
   E. Religious.
   F. Social.
   G. Other objections, specify:
   Remarks:

2. Do you favor SELECTIVE sterilization of the mentally defective as part of a broad program of supervision and parole to be applied in selected cases, who, after proper and suitable training are considered eligible for parole and community supervision, assuming that consent of patient or relative or both has been obtained and that ample safeguards — medical, psychological and legal — are placed around its administration? Yes——————— No———————

3. To be answered by those members living in states having sterilization laws.
   A. Total number sterilized to January 1, 1930,———————
   B. Total number of mental defectives sterilized to January 1, 1930———————
   C. What in your opinion are the outstanding defects in your present law?
   D. What difficulties are being met with in its enforcement?
   E. What suggestions for its improvement?
   F. In your opinion, should your present law be entirely abandoned?

Replies were received from 38 states and from 5 foreign countries. Of the 258 questionnaires returned, 8 were unclaimed and 7 were neutral or expressed an opinion neither for nor against, leaving 243 answering "yes" or "no"; 227 voted "yes" for sterilization and of this number 214 voted for SELECTIVE sterilization. Only 16 votes were recorded against sterilization in any form, therefore, 94 per cent of those members returning questionnaires voting "yes" or "no" favored sterilization, and of this number 97 per cent gave a preference for SELECTIVE sterilization.

Of those voting "no" — 16 in number — 44 objections were raised, distributed as follows:

In advance of public opinion	6	Religious	6
Difficulty of administration	9	Social	6
Legal	4	Other objections	4
Moral	7	Not stated	2

On question No. 3, it has been difficult to tabulate total number of operations performed, due to overlapping and duplication. Under 3-C — "Outstanding defects in the law", we find listed:

Lack of fund.
Too much red tape.
Meddlesome politicians.
Difficulty of proving inheritance of defect.
Unhappy association of insane and criminal inclusion.
Too cumbersome.
Too well safeguarded.
No provision for repeal and hearing in Court.

It is noted under 3-F — "Should your present law be entirely abandoned?" *that not a single questionnaire was received from any state having sterilization laws in which it was stated that they wished their present law entirely abandoned.* Suggestions for improvement were many, but no one wished to abandon it entirely. Of the 25 states having laws, only 5 reported that their laws were entirely satisfactory — Alabama, California, Kansas, Maine and Minnesota.

To quote from various replies received would be too lengthy in this paper. I greatly appreciate the response given to this questionnaire, and particularly from those who requested their replies to be considered confidential.

There has never been any great movement in the world's history, particularly if that movement refers to welfare or social work, but what has its strong objectors and its strong supporters. *Sterilization complies with this general trend.* The first objection is that no legal clear-cut definition as to whom shall or shall not be sterilized has ever been given. Also, that it is class legislation, that it violates the bill of rights contained in our Federal and State Constitution. There is the ever-present type of objection that it interferes with the inalienable rights of man. A review of these different states shows that there is, in many instances, inadequate discrimination of the particular type applicable. Even the so-called model sterilization law has the objectionable feature of using such terms as "*socially inadequate*" *and is aimed at preventing procreation of potential parents of socially inadequate offspring.*

The constitutionality of many of these laws has never been passed upon except in the two states previously referred to. Many argue that they are in advance of public opinion and are difficult of administration, *yet any welfare program of note has always been slightly in advance of public opinion and has always been difficult of administration.*

The question of morality has been raised and that the mentally defective person knowing that he cannot reproduce will turn to sexual promiscuity. Further, that the advancement of these laws will cause a *laxness on the part of state legislators to appropriate additional money for segregation and institutional care. It is also felt that the inclusion of the criminal and mentally ill make an unhappy association and prevent its proper application to the mentally defective.*

The fundamental principles of the care of the mentally defective may well be stated in the program of the late Dr. Walter E. Fernald.[4] Those principles remain absolutely essential in any well rounded program, and as the years pass we continue to see the wisdom of that program, namely:

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[4] "State Program for the Feeble-minded", Dr. Walter E. Fernald.

Identification	Supervision
Registration	Segregation
Education	

There is yet another factor which at this time should be considered wisely, conservatively and without bias as a further step in the care and parole of the individual defective, namely "Selective Sterilization". *I use the term "selective" rather than "eugenic" to show at once that it has, in my opinion, a limited selective field and should be considered in addition to the five points of a state program referred to above.*

No state today has sufficient beds to accomplish complete segregation. Neither are there any prospects, financially, of such being attained. *It is quite possible for a state to accept sterilization and then to fail to provide sufficient beds for segregation. Sterilization at most is one plank of a broad program and is only part of a program. To advocate it to the detriment of further increase provisions would be shortsighted.* Segregation alone has not been able to meet the situation due largely to its limited application.

No state in the Union today has 10 per cent of its known mentally defectives segregated in institutions, and over 50 per cent of the states in the Union have less than 5 per cent segregated. Over 90 per cent of the problem of the defective is a community one. *We are now retaining in our institutions many thousands of children who have received all of the training it is possible to give them, yet whom, for social reasons, we are retaining in our institutions until they are forty-five or fifty years of age. If the defective is early recognized and is given intensive training during the formative years, he has largely received the benefit of which the institution is capable of giving him by the time he is twenty-five years of age.* Hence our segregation policy is a mere drop in the bucket and is blocked by the retention of these many people who occupy bed space as permanent in-patients.

If we are to make any *appreciable showing in the training and education of the mentally defective, increased facilities must be provided and increased number of children must be trained. Likewise, increased facilities for their community reclamation must be found. Our institutions yet remain as great lakes with many inlets and few outlets.* To sit complacently and think the problem has been solved by admitting and retaining only 5 per cent is to fail to recognize actual conditions.

Parole work and community supervision are now being used to a more or less degree in most institutions with varying degrees of success, *but on the whole the present system of community supervision is inadequate to meet the need of certain groups of these persons.*

The largest prevention of increased parole work is one of sex delinquency and is the biggest factor in failure of parole adjustment and is the cause of the return to the institution. The question of sex delinquency is far more common in the mentally defective girl than in the mentally defective boy, the defective boy lacking the aggressiveness as well as the attractiveness to play such a role, and is quite unable to compete with other males of higher intellectual levels in this sphere. The defective girl, being passive and receptive over-sexed, feebly inhibited, lacks other interests and becomes, not a ready prey, but too often the aggressor in this field.

We sometimes wander far afield in search of biological or eugenic reasons for sterilization when the greatest social reasons are at hand. While our studies in community and clinic work, and seeing the defective outside the institution, have somewhat modified the extreme viewpoint of heredity as demonstrated in the Jukes and Kallikaks, yet I think it is safe to assume that at least *40* *to 50 per cent of the state institutional type of defect are due to heredity.* It would be most difficult to convince the average state institutional head that at least 40 to 50 per cent of his problem were not due to heredity. I am not convinced about the non-heredity of the institutional type. At the same time it may be admitted that the hereditary type in the long run is more likely to get into a public institution than the accidental or acquired type of defect.

Every public institution has its typical museum specimens of defectives. *Whether we are dealing, as some writers claim, with the offspring of hybrids or biological variants, we know that we cannot live by heredity alone, neither can we live by environment alone.* Each of these is important, but we make a mistake when we proceed as though heredity meant nothing. "We do not gather grapes from thorns, nor figs from thistles".

Regardless of our theories of heredity, the mentally defectives in a large measure tend to maintain inferior homes in inferior environments, and to rear their children in an inferior manner. It is not what caused the defect, but the fact that they are defective. The question of sex and reproduction is the biggest factor with which we have to contend today in dealing with our brighter types when paroled, and *it seems unfair to add to the burden of maintaining themselves the added responsibility of parenthood.* I have yet to see the mentally defective girl or boy for whom parenthood can be recommended.

A broad program of education is absolutely essential. The abilities, capabilities, limitations and a general program of education governing the care, training and parole of the mentally defective should be given the public at all times. *No law is a popular law unless it has the backing of the majority of its citizens*, hence the policy of education should be a continuous one. First, consideration should be given to the general public and to the relatives of patients so that these relatives will in time endorse and request whatever operative procedure is required in handling their particular problem.

It has further been suggested that those who favor radical sterilization laws and those who believe in no sterilization laws might well benefit by such an educational policy. *We should also remember that should sterilization be adopted as a part of our program, close follow-up work will have to be done and that the social setting of the individual defective, adjustment and readjustment and supervision should be continuous, and that for a period of at least five years the individual so sterilized should be on indefinite parole.* While we make the mentally defective safe for the community, we have yet the problem to make the community safe for the mentally defective, and the number that can be paroled will continue to be in direct ratio to that for which the community provides.[5]

Sterilization in selected cases is now being considered favorably by a great many of the leaders in our field. Dr. A. F. Tredgold, in his recent Fifth Edition published last year, states:

"I do not doubt that there are certain stable and well conducted defectives for whom, after being trained in institutions, suitable employment can be found in the community. The chief danger in their case is procreation and for such sterilization might be an appropriate procedure."

In a recent issue of "Mental Welfare" published by the Central Association of Mental Welfare of England, Dr. Tredgold further states:

"It is obvious that this is a totally different proposition to that of the wholesale and indiscriminate sterilization we have hitherto been considering. It is also one which has received a considerable measure of support from persons having practical knowledge of defectives. It is, therefore, worthy of careful and serious consideration. My personal opinion is that there are certain cases of this kind in which sterilization might well be an appropriate and desirable procedure."

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[5] "Parole of the Mental Defective", Dr. George L. Wallace.

Dr. Stanley P. Davies in his new book "Social Control of the Mentally Deficient" devotes twenty-five pages to sterilization in which he states:

"When one passes from the general to the particular, from the group viewpoint to the individual or casework viewpoint, the writer believes that sterilization may have a limited application, provided it can be sufficiently safeguarded against indiscriminate usage. Although for as long as the indiviudal is institutionalized, sterilization is superfluous."

In the selection of those cases to be sterilized, the greatest *caution should be applied. Select only those who are suitable for parole; those in institutions whom we know; those* who have received the full limit of their educational and training abilities; who have reached their I. Q. predictions; who have been trained industrially and occupationally in all the fields of which the institution is capable. Good habits, sound bodies, pleasing personalities and willingness to take orders should be determining factors in selecting from the above group those who are to be sterilized.

These cases should first be selected by the staff of the institution, by those who actually come in contact with them and who know their daily life. The consent of relatives or guardians should be obtained. After this, it is suggested that there be an impartial board consisting of *two psychiatrists, one neurologist, one lawyer and one psychologist, they being free to call to their assistance such experts from whatever technical field they desire — psychological, legal, sociological and clerical as the particular case under consideration may require.* Ample legal safeguards should be placed around the institution, the board and the surgeon performing the operation so that no one participating in the operation would be liable civilly or criminally.

The operation itself should be performed by capable surgeons of *specialized training having no official connection with the institutional staff.* The operation should consist of vasectomy and salpingectomy under the latest approved technique, similarly to that as described in "Sterilization without Unsexing."[6] This operation does not deprive the body of any organ or hormone, but merely prevents reproduction. *As far as known, there has never been recorded any other physiological affect on the body by this method, except reproduction.*

Sterilization should be limited to those who after suitable training over a period of years are considered eligible for parole. The idiot is largely sterile to begin with. The low grade and medium grade imbecile is a permanent institutional case sterilized or unsterilized, which limits its application to selected morons and a few carefully selected high grade imbeciles. Its practical application should, therefore, be limited to not over 20 per cent of the average public institutional type. *It is not a panacea nor a cure-all, and should not be looked upon as such. It should be based on purely an individual proposition.*

It would be well first to have it a *permissive law rather than a compulsory law.* Such a permissive law, plus a program of conservative and sane education on the part of the public and relatives, tried out over a period of years, *carefully analyzing those cases done, would point the way toward further improvements and recommendations as to statutory changes.*

Selective sterilization will not materially affect the total number of mental defectives in the next generation. Its field is limited and selective. It would not apply to over 20 per cent of our present institutional population. It should be looked upon impartially and unprejudiced. No state can afford to continue building institutions sufficiently large to take care of the problem of the mentally defective, which is being increasingly recognized daily. Some measure other than permanent custodial care must be and should be found. *The entire question of control of the defective requires unbiased and conservative thought.*

The mentally defective child is entitled to an education, insofar as his abilities lie, just the same as his normal brother and sister. *He is equally entitled after receiving this training to be paroled under the most favorable circumstances both to himself and to the institution which has trained him.* He deserves the right of expression on his levels, the right of industry, the right of leading as good a life as is possible under his handicap.

CONCLUSIONS

1. Questionnaires were returned from 80 per cent of the membership of the American Association for the Study of the Feeble-minded. Ninety-four per cent of the replies received favored sterilization. Ninety-seven per cent of these voted for SELECTIVE sterilization. No state having such laws requested their being abandoned. The trend, therefore, is overwhelming for such laws. Twenty-five states have sterilization laws.

2. It has a limited selective field applicable to approximately 20 per cent of our present institutional population. It is not a panacea nor a cure-all. It is only part of a program. No noticeable effect will be seen in the reduction in number of institutional defectives in this generation.

3. Heredity has been overemphasized. It is not what caused the defect but that they are defective and maintain inferior homes in inferior environments and rear their children in an inferior manner. The social setting and economic factors should likewise be considered. Emphasis should be placed upon the term "SELECTIVE" rather than "Eugenic."

4. Its greatest field of usefulness is in individual selected cases who, after suitable training, are considered for parole, and is part of our community and parole program.

5. Consent of relatives or guardian should be obtained. After this, there should be an impartial board consisting of two psychiatrists, one neurologist, one lawyer and one psychologist, they being free to call to their assistance such experts from whatever technical field they desire. The operation itself should consist of vasectomy and salpingectomy performed by a competent surgeon not connected with the institutional staff. Sufficient time should elapse between the approval and the operation, and ample time for legal objections to be presented.

Sterilization as practiced under modern methods deprives the body of no organ and of no hormone. No other physiological affect on the body has ever been recorded, except reproduction.

6. It should be applied cautiously and conservatively, amply safeguarded medically, psychologically and legally. It should be first a permissive law, not a compulsory one. Those performing the operation should be protected from any action both civilly and criminally. It is needed to round out a complete program for the control of the mentally defective.

7. The mentally defective child is entitled to an education, insofar as his abilities lie, just the same as his normal brother and sister. He is equally entitled, after receiving this training, to be paroled under the most favorable circumstances, both to himself and to the institution which has trained him.

8. The time has arrived when every student of welfare problems should give consideration to this further step in dealing with the mentally defective. The majority of its students approve. The public demands. Justice to the individual defective requests, and thirty years of experimentation warrants its adoption as a part of a broad and conservative program.

We had better put a fence around the top of the cliff than an ambulance down in the valley.

DR. GEORGE L. WALLACE
A SUMMARY AND A TRIBUTE

By George E. McPherson, M. D.
Superintendent Belchertown State School

The untimely death of Dr. George L. Wallace removed from our ranks one who was at the prime of life, and who occupied a high, if not the highest, position in the ranks of educators of the mentally deficient, being frequently called in as advisor to other States contemplating modern methods of caring for their problems of mental deficiency.

Initiated into this work at Waverley under the care of the late Dr. Fernald, Dr. Wallace was thoroughly trained in the tenets of institutional care of the feeble-minded, as well as becoming thoroughly acquainted with the community side of the problem. These two men, working together for years, developed in Massachusetts a system or program for the care of the feeble-minded, which stands second to none. After many years of careful and detailed training under Dr. Fernald, Dr. Wallace took up the task of developing at Wrentham the second State school in this Commonwealth. To this task he brought all the experience of his early years and developed much originality in making noticeable innovations and improvements at Wrentham. His dormitories and other major buildings, were brought up-to-date with modern heating and ventilating systems, with plenty of light and air.

It would appear to most of us that Dr. Wallace's greatest contribution to the care and training of the feeble-minded lies in his attitude toward the individual. He forcefully stressed the need of attention to the individual child as a person whose traits and qualities should be evaluated and whose training should be based on this valuation. In 1925 Dr. Wallace wrote as follows: "As an integral part of the State-wide educational system the schools for the feeble-minded are enjoying greater recognition. There are many children who, on account of temperamental and other conditions, are wholly unsuited for training in the special classes of the public schools, but require the 24-hour a day supervision and training that only an institutional school can furnish. Many of these children after having been cared for and trained a few years in an institution are proving to be a real asset when carefully placed in the community and assisted in their adjustment by the social service department. Over 800 boys and girls who have received training at the Wrentham School have adjusted themselves so well in the community that they have been discharged from the custody of the school. Thus is being fulfilled the ideal of Dr. Samuel G. Howe, the founder of the work for the State care and education of the feeble-minded in this country, when he said, 'A school for the feeble-minded is one more link in the educational system'."

Dr. Wallace recognized very clearly that just as the average normals vary tremendously in personalities, traits and individualities, so, also, in the feeble-minded, one finds the same elemental likenesses and differences. His stressing of the rights of the individual, and especially of the handicapped, emphasized the humanity of the man as applied to the problems of those coming under his care, either for training or for advice.

In 1920 Dr. Wallace wrote as follows: "The scope of work of a school for the feeble-minded is continually broadening. While the custodial feature must of necessity always be an important part of the work, the educational feature is constantly assuming greater importance. A few years ago schools for the feeble-minded made little attempt to return pupils to the community, but recently this work is receiving serious attention. With the State-wide policy of establishing special school classes in every school district of any size, the educational side of institutional work must become of still greater importance. There are many feeble-minded children who, on account of nervous instability, will not be able to make proper progress in the special classes and for their own best development will be placed in the institution where their lives may be regulated twenty-four hours of the day. These children will be sent to the institution to be educated, and they must not be approached in the institution with the idea of making them custodial cases, but with the idea of returning many of them to their homes and the community. More of the inmates now in institutions might be favorably considered for return to the community if their mental handicap had been earlier recognized in the public schools and they had been committed to the care of the institution before harmful anti-social habits had been formed, or, that which is quite as serious, no useful habits of life established. If the institution keeps pace with the awakening interest in the feeble-minded in this State, it must become more highly specialized in its activities. The institution must not be made the repository of the misfits of the community. The individual with the psychopathic personality, the criminal and the defective delinquent should not be committed to an institution for the feeble-minded, even though his intelligence rating may be below normal. The presence of these classes in an institution for the feeble-minded, although they may be relatively few in number, prevents the institution from functioning as it should in the care and training of the feeble-minded children. A staff of officers, teachers and attendants, trained in the proper ideals and methods for successful teaching and caring for the feeble-minded, have their energy sapped, their efforts minimized and their enthusiasm lessened in trying to combat the anti-social and deadening influence of these defective delinquent and pathological classes."

One of the distinctive features of Dr. Wallace's work at Wrentham was the education of the children physically crippled as well as mentally handicapped. He felt that each child had a right to be trained to the upper limits of his individual capacity and felt that all children, no matter how low-grade mentally, or badly crippled physically, could be educated and trained to perform some tasks, even if poorly. He felt that the individual had a right to be trained to achieve, in order to attain the satisfaction that comes with said achievement. He knew that any article made by the hands of an individual, — no matter how incompetent the child, or how poor the product, would be justified by the pride of performance which the maker would have a right to feel. In an institution housing hundreds of dependents, such a humane attitude was bound to bring results in happiness and well-being for those under his care.

Of late years his thought had been directed toward the development of nursery buildings to take care of young children, — having in mind that if at an early age they were started in lines of training, they could be returned into the community much more successfully than if they were allowed to remain out of school until they had reached a considerable age on the one hand, — or gotten into difficulties on the other. His thoughts along these lines led him to develop what is known as our Nursery building, — a small, single story unit, housing fifty children.

Another peculiarly prominent development instituted by Dr. Wallace at Wrentham was initiated in 1915. In 1914, in his Annual report, Dr. Wallace first emphasized the wisdom of training children properly and releasing them into the community for self-support. His activities in this field led to the passage of a very important legislation affecting the status of such paroles. In 1920 he writes of these children as follows: "It has been gratifying to observe how well the girls, who have received for some years the protection and training of our school, have conducted themselves under parole in the community at a time when the institution was constantly besieged to admit girls into the institution on account of their inability to protect themselves in the community. I am convinced, however, that an extended period of this institutional protection and training is necessary for these girls before they can be successfully paroled. During their residence in the institution they form valuable habit traits which become real assets to these girls when they are placed in the community. These regular, good habits, well established in the school, appear to have more to do with the girl's success after she has been placed on parole than does her intelligence rating. The low and middle-grade moron seems more capable of benefiting from institution experience than the high-grade girl. We find greater emotional disturbances present in these defective individuals with the highest intelligence rating and usually more serious character defects. Important as intelligence is to the individual in making her adjustment to her environment, yet that quality alone is not sufficient. The emotional qualities play a most important part in determining the reactions of the individual. A disturbed emotional nature is constant in the high-grade girl who has difficulty in adjusting herself to her environment; therefore, may we not be correct in assuming that this disturbed emotional condition is a greater cause for her anti-social acts than her intelligence defects?" From his 1921 report there may be quoted as follows: "As a result of our care and training it is gratifying to find that a considerable number of our pupils are qualifying for parole and are being established in the community, in most cases in a highly satisfactory manner. From our social worker's report on another page it will be seen that we are now caring for 110 girls and boys in the community on active parole. A number whom it was considered unnecessary to further continue under the supervision of the school have been discharged from parole, some of whom it has been deemed best to place on their own responsibility, and others, where the supervision seemed adequate, have been discharged in care of their relatives. If the subject of parole for the feeble-minded be considered from the financial viewpoint alone, it must be deemed a success. Considering the active parole cases alone, a saving is effected to the Commonwealth of $90,000 for housing and an annual saving of approximately $35,000 for maintenance. Not only is this large sum of money being saved to the Commonwealth, but these individuals, through the training that they received at the school, have become producers in the community. Most of them have become regular wage earners and many of them are assisting materially in the support of their families, while others are not only supporting themselves in a very reputable manner, but have started bank accounts. The financial consideration of this question of parole, though interesting, is — to my mind, relatively unimportant when compared with the fact that we are assisting these people whom we have trained to a broader and fuller life."

During the development of the work at Wrentham, the school life was very seriously upset at times by the activities of the so-called defective delinquents.

The disturbances by this group of troublemakers caused Dr. Wallace to become extremely interested in legislation designed to relieve the State schools, as educational institutions, from the burden of caring for these boys and girls who were essentially delinquent. His efforts in this direction hastened the establishment at Bridgewater of departments for both male and female delinquents, and the commitment of such active troublemakers from the schools did much to sweeten the lives of those who were to remain at the State schools. Of this type of patient Dr. Wallace wrote as follows: "The presence of a large number of the defective delinquent class in the institution is becoming an increasingly wasteful burden. The institution can do them no good, while they do the ordinary feeble-minded children, who are the inmates for whom the school was created, incalcuable harm by robbing them of a large share of the attention, interest and energy of the staff. The criminal tendencies of this class were well illustrated by the loss of our dairy barn, which was set on fire by delinquent inmates and burned last winter.

It has long been recognized by all forward looking States that in the care of the insane the ordinary insane patients must be protected from the criminal insane. This is accomplished by making special institutional provision for the latter class. Yet in this Commonwealth, which was the leader in making this special provision for the care of the criminal insane, the criminal feeble-minded are still freely committed to our schools for the feeble-minded.

An institution for the feeble-minded, if well managed, is a community comparable to a small town, humming with activities. It is well known how one criminal will terrorize a town, disorganize its activities and disturb the law-abiding citizens. The law-abiding citizens feel that they have a right to be protected from the depredations of the criminal. The feeble-minded children entrusted to our care have as good a right to be protected from the criminal feeble-minded. I believe that our children's inability to protect themselves from the harmful influence of this delinquent class is a challenge to our spirit of fair play and our desire to protect the weak. In justice to the feeble-minded children some action should be taken at the earliest possible time to remove this delinquent class from the schools for the feeble-minded."

Having in mind the activities which had taken so much time and attention from Dr. Wallace at the Wrentham State School, it is important to recognize that about 1920 he assumed another great burden, in that he undertook to supervise the beginnings of the Belchertown State School which was destined to be a duplication of the plant at Wrentham. This additional distribution of his activities undoubtedly added severely to the physical strain under which he was operating and I have no doubt entered into those factors which led to his unexpected death. Dr. Wallace was one who had always failed to spare himself, — spending prodigally of both time and strength to personally supervise details of the construction and operation of his own plant, as well as to undertake to shoulder the burdens incidental to Belchertown.

All the time that he was developing the institution at Wrentham, Dr. Wallace was paying considerable attention to the community aspects of the feeble-minded and their care. He went out into the various communities in his neighborhood, discussing the needs of the question and their proper solution. At all meetings of the Association for the study of the Feeble-minded, he took a prominent part and was looked upon as a high authority on the questions of the day.

As far as we are informed, the establishment of a research laboratory to delve into the problems surrounding mental deficiency, — and to do this in a thoroughly scientific manner — was conceived in the mind of Dr. Wallace, so that at Wrentham there has been completed a research laboratory from which it is expected that much scientific data may be accumulated for universal use. The vision of this project, his success in securing appropriation for the physical plant, was probably the last great achievement of this educator, and certainly, if this laboratory shall function in any sense as he anticipated, very fittingly, it will stand as a most impressive monument to his foresight.

To sum up his genius, it may be said that he had a superior comprehension of the prominent problems of mental deficiency, an intimate knowledge of how to solve such problems from the institution standpoint, as well as from that of the community, — and humaneness of thought and act which brought to his pupils and to his fellows a life which, it seems, can be replaced with difficulty.

THE PROBLEM OF ADEQUATE INSTITUTION PROVISION FOR THE MENTALLY DEFECTIVE*

By Neil A. Dayton, M. D.,
Director of Research, Massachusetts Department of Mental Diseases

Foreword

Previous to 1926 it was my pleasure to spend several years as Assistant Superintendent at Wrentham State School under the late Dr. George L. Wallace. During that time I had an unusual opportunity to learn of his administrative policies and his general philosophy on the subject of mental defect. He always insisted that the State school must be the unit around which a comprehensive plan for the care of the mentally defective must be developed, and that efforts to substitute makeshift methods of training were not only false in precept but by their very failure to fit the child for a well adjusted life carried potentialities for disaster both economically and socially.

Dr. Wallace was a man of large sympathies, and was ever sensitive to the tragedies enacted in families where it had been impossible to remove the mentally defective child from the family group. His heart went out to the mother who was having her health utterly ruined by caring for an idiot or low grade imbecile. He understood the situation of a home made impossible for older children by the presence of a feeble-minded child. He wanted desperately to help the innumerable cases in which families devoted their entire lives to the care of the mentally backward child and were forced to neglect the normal children.

Dr. Wallace always felt that our present plan of institutional provision of the mentally defective was utterly inadequate to the needs of society. He felt that there should be many more beds available in order that a larger number of families might not only be relieved of heavy burdens but also receive the benefit of having their children trained and educated by a specialized group particularly qualified to carry on this activity. So, from both the point of view of the family and of the child he had ample evidence that there was distinct need for greater institutional provision. It is perhaps natural that the writer should be imbued with a little of this spirit and be impressed by some of the same experiences which had brought Dr. Wallace to this frame of mind.

Through a grant of the Rockefeller Foundation in 1928, it became possible to investigate certain phases of mental defect, the study being based upon the resident populations and all discharges over a ten-year period from all Massachusetts State Schools. In this material certain facts came to light which supported in a rather surprising way statements made repeatedly by Dr. Wallace. The writer took this material to him and found him very much interested in the facts as developed. In fact, this paper was talked over with him within two weeks of his death, and he expressed the opinion that we had needed an analysis of this sort for a long time, and expressed

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*A part of the statistical data used in this communication had its origin in a larger study in Mental Diseases and Mental Defect sponsored by the Laura Spelman Rockefeller Foundation. Acknowledgement is made of the generous financial assistance which has made the study possible.

The writer was assisted in the preparation of this paper by Helen H. Dolan, S. B., Chief Research Worker

PICKING VEGETABLES
Wrentham State School

his pleasure at the trends demonstrated. Therefore, the writer is probably not exaggerating in saying that this communication is the last bit of writing with which Dr. Wallace had to do prior to his death

INTRODUCTION

For a long time the Department of Mental Diseases has been aware of the ever-increasing number of applicants on the waiting lists for admission to the three State schools for mental defectives. On July 1, 1929, this number totaled 2,308 cases. At that time our Commissioner, Dr. George M. Kline, directed the Division of Research to analyze the lists with a view to determining the policy of the Department in outlining a program for future institutional provision for mental defectives. This analysis was made and presented to the Commission on Administration and Finance for action. Because of the rather unexpected facts which were brought to light, serious consideration was given to a new building program for our State schools.

The analysis showed that many factors were contributing to the continued increase, and that administrative problems of a serious nature seemed to accompany the steady rise in numbers of applicants. The large group of unsuccessful applicants seemed, in some manner, to be linked with the problem of over-crowding and with the diminishing numbers of admissions and discharges. All of these facts prompted a thorough study of the situation.

The present communication comprises an analysis of patients placed on the waiting lists of all State schools during the period 1915–1929 together with a study of other apparently associated factors.

METHOD OF STUDY

It was requested that the individual superintendents carefully review their waiting lists and reject all cases not in actual need of State school care *at the present time.* Thus, the waiting lists were reduced to active urgent cases only. Material from the record of each individual case was then transferred to a record blank and sent to the Department of Mental Diseases. At the Department the facts on these record blanks were placed on punch cards, and the material analyzed. Since this review was accomplished (July, 1929), the waiting lists have been kept current by having the individual schools report to the Department each month with regard to each new application for admission. In addition, the names of all cases withdrawn from the waiting lists for any reason are also reported. Thus, on the first of each month it is possible to balance the books and have available for study or for administrative purposes the waiting lists of all active urgent cases seeking admission to out State schools.

INCREASING DEMAND FOR ADMISSION TO STATE SCHOOLS

Graph I compares the number of cases seeking admission with the rated bed capacity of State schools for the period 1915–1929, and shows projections of these items to the year 1939. It may be seen that the curve representing the increase in waiting lists shows a much sharper rise than the curve of the increase in bed capacity. This graph demonstrates that the community demand for the admission of cases to State schools[1] has increased far more rapidly than additional beds have been provided to meet the demand.

As the number of applicants increases, it is apparent that the percentage of those who will be successful in gaining admission is becoming smaller each year. That is, a more rigid selection will be necessary in choosing the cases to be admitted. Under these circumstances we may expect that the superintendents will be forced to select the more serious cases from among the many that come to their attention.

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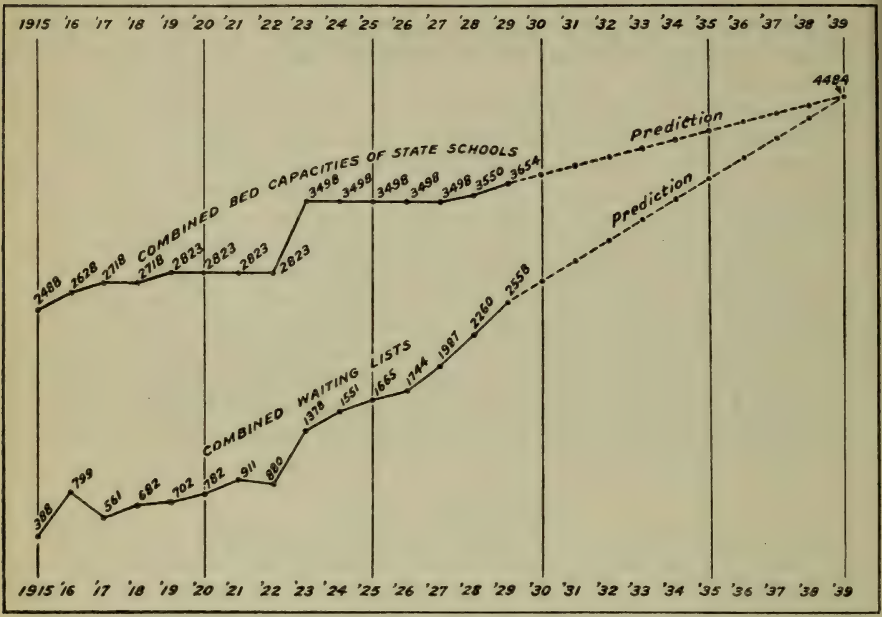
[1] At the present time Massachusetts maintains 3 State schools for the mentally defective. They are as follows: Walter E. Fernald State School, opened 1848, Ransom A. Greene, M. D., Superintendent; Wrentham State School, opened 1907, S. Stanley Raymond, M. D., Superintendent; Belchertown State School, opened 1922, George E. McPherson, M. D., Superintendent.

Rated Bed Capacity Compared with the Number on the Waiting Lists — All State Schools, 1915–1929



Graph I

In Graph I we have attempted the dangerous feat of prediction. At the observed rates of increase, the curves for the number of available beds within State schools and the number of cases on the waiting lists will cross some time in the year 1939. Thus, we may predict that in 1939 the rated capacity of our State schools will be 4,484 beds. Likewise, we can expect that in 1939 we will have 4,484 cases on our waiting lists. In other words, at that time the superintendents will have to select their admissions *from a number of cases which exactly equals the filled beds already existing.* In 1939, the numbers on the waiting lists would completely fill all available beds if, in some magical way, they could be emptied of their occupants.

Table A outlines the selection of cases for admission from these large waiting lists over the period 1915–1929.

Table A. — *Average Number on Waiting Lists and Average Number of Admissions to State Schools for Three Five-Year Periods.*

	Average Number of Cases on Waiting Lists	Average Number of Admissions	Percentage Admitted from Waiting Lists
1915–1919	624.4	428.4	68.5
1920–1924	1100.4	439.2	39.9
1925–1929	2042.8	337.2	16.5

During the period 1915–1919 superintendents were able to admit 68 per cent of all cases seeking admission. Between 1920–1924 this rate was reduced to 39 per cent of applications. Between 1925–1929 the rate was even more markedly reduced to 16 per cent of all cases seeking admission.

We now see the reason for the tremendous selection of cases which faces superintendents in choosing cases to be admitted to State schools. Their choice has been so restricted that inevitably they have had to confine themselves *to the most critical cases only.*

DECREASING INTELLIGENCE OF ADMISSIONS

The necessary selection of the more serious cases as outlined above is borne out in a striking manner by the decreasing intelligence of admissions. In studying the cases admitted to the Wrentham State School over the period, 1915–1929, we see a marked decrease in the intelligence quotient. Table B gives this material for the three five-year periods. Thus, the avreage intelligence quotient of admissions decreased from .53 in 1915–1919 to .45 in 1925–1929. This decrease is so marked, and occurrs in such a comparatively short time, that it may well cause alarm as to the future of our State schools.

TABLE B. — *Average Intelligence Quotient of Admissions from Community for Three Five-Year Periods, Wrentham State School.**

	1915–1919	1920–1924	1925–1929
Average Intelligence Quotient . .	.53	.49	.45

*Excludes transfers from other institutions.

We have available the figures for a single State school only, but the numbers are sufficiently large to indicate the trend.

CASES IN LOWER INTELLIGENCE LEVELS HAVE SMALLER PERCENTAGES DISCHARGED

The seriousness of the decreasing average intelligence of admissions and its possible effect upon discharge rates of future years becomes apparent when we study the relative rates of discharge for cases falling in different mental categories. We studied the mental status of the resident population of all State schools for January 1, 1917, comprising 2,815 cases. We then determined the outcome of these cases including the numbers of discharges occurring in each mental grouping over the fourteen-year period following, or up to the date of January 1, 1931.

Graph II demonstrates that 32 per cent of the idiots in residence on January 1, 1917 were discharged during this period. We observe that the percentages of cases discharged increase rapidly as the higher mental groupings are approached. Thus, 42 per cent of imbeciles were discharged, 69 per cent of morons, and 83 per cent of those cases falling in the borderline, dull normal, or normal groups. There is a marked difference in discharge rates in accordance with intelligence groupings, or, in other words, we see a definite association between a high rate of discharge and the higher intelligence groupings.

CASES IN LOWER INTELLIGENCE LEVELS REMAIN IN STATE SCHOOLS FOR LONGER PERIODS OF TIME

To appreciate the significance in the proportions of the different mental groups discharged we must also consider the length of time which each of these mental groups spent within the institutions prior to discharge.

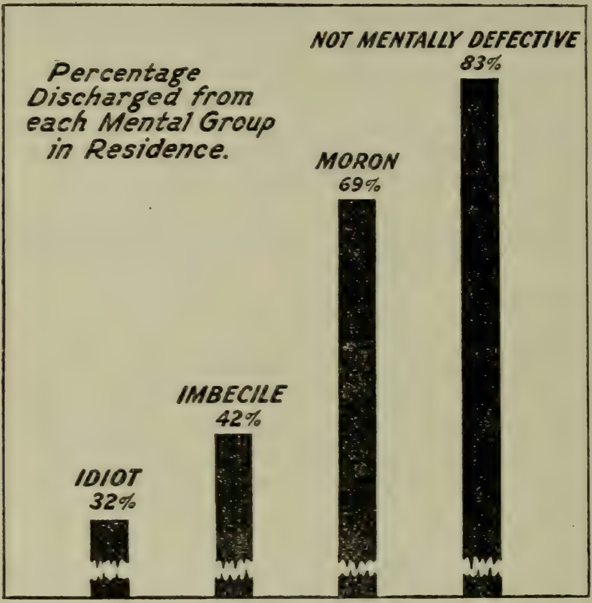
Table C outlines this material, showing the average length of time spent

TABLE C. — *Average Length of School Stay of Mental Groups in Residence in All State Schools on January 1, 1917 who Died or Were Discharged before January 1, 1931.*

	Average Length of Time in Years Spent Within State Schools Prior to Discharge or Death				
	All Groups	*Idiots*	*Imbeciles*	*Morons*	*Not Mentally Defective*
Discharges	8.6	13.8	11.2	7.0	5.6
Deaths	13.8	15.6	14.6	10.8	5.6

within institutions by patients who "died" or were "discharged." In the "discharged" group the idiots remained an average of 13.8 years, the imbeciles 11.2 years, the morons 7.0 years, and the group not mentally defective (borderline and dull normal) 5.6 years. Among the patients who "died" we find that the idiots remained an average of 15.6 years, the imbeciles 14.6 years, the morons, 10.8 years, and the group not mentally defective 5.6 years. It will be noted that the lower mental groupings, whether discharged outright or by reason of death, remained within institutions for decidedly longer periods of time.

Idiots, Imbeciles, Morons and Cases not Mentally Defective in Residence in All State Schools on January 1, 1917, who were Discharged up to January 1, 1931.



Graph II

The findings of the three preceding sections predict an inevitable lower discharge rate for our State schools. Thus, Table B indicates that our admissions are being made up of increasing proportions of cases in the lower intelligence levels; Graph II demonstrates a smaller proportion of discharges from the groups of lower mental grade; Table C shows that the lower grade cases in both discharges and deaths tend to remain for definitely longer periods of time within State schools. Our decreasing discharge rate seems destined to be still further reduced if we continue to admit in increasing proportions cases which are confined to the lower intellectual levels.

The Diminishing Discharge Rates

The previous sections have outlined the fact of definite selection in cases admitted to State schools. Is there evidence that the selection of the more difficult cases is in any way reflected in the discharge rate for the same period? Let us consult the data.

Table D shows the average number of discharges from all State schools for the three five-year periods, and compares this with the average number of cases under treatment for the same periods.

TABLE D. — *Average Number of Discharges from All State Schools for Three Five-Year Periods: Rates per 1,000 Under Treatment*

	Average Number of Cases under Treatment	Average Number of Cases Discharged	Rate per 1,000 under Treatment
1915–1919	2,872.8	259.6	90.3
1920–1924	3,346.0	284.2	84.9
1925–1929	4,092.4	313.8	76.6

For 1915–1919 the discharge rate per 1,000 under treatment was 90.3 cases. In 1920–1924 this had decreased to 84.9 persons discharged. In 1925–1929 this had further decreased to 76.6 persons discharged per 1,000 under treatment. It is evident that the discharge rate for our State schools has diminished markedly over the period 1915–1929.

OVERCROWDING

In the face of a lowered discharge rate and an overwhelming demand for admission to our State schools, the superintendents are placed in a very trying situation. On the one hand they see the inevitable retention of the more difficult types which they are finding necessary to admit, and a concomitant decrease in the ratio of cases discharged. At the same time they have thousands of applications for admission. They know that their schools cannot function to best advantage in the face of overcrowding, and yet they are placed in a position which practially renders inevitable the admission of larger numbers of cases than can be adequately cared for. Thus, we note (Table E) that during the period 1915–1919, when nearly 70 per cent of the waiting list cases were admitted, and the discharge rate was at its highest point, there was no overcrowding. In 1920–1924, with increasing pressure, we observe that the institutions were much nearer capacity rating. For the period 1925–1929, with still increasing demands for admission and a decidedly lower discharge rate, the overcrowding was 6.72 per cent. We may say that this overcrowding is, to a certain extent, a measure of the effort made by superintendents to meet the situation of increased demand in the face of a lowered discharge rate. We now see the combined results of increased demand and lower discharge rate, in that the institutions become overcrowded and less able to deal with their patient population in a satisfactory manner.

TABLE E. — *Overcrowding in State Schools for Three Five-Year Periods.*

	Percentage of Overcrowding
1915–1919	—2.38*
1920–1924	— .70*
1925–1929	+6.72

*Undercrowding — Patient population not up to capacity.

DIMINISHING ADMISSION RATES

As we follow the matter through to this point, we note that the sequence appears to be as follows. The slowly increasing number of available beds does not meet the rapidly increasing community demand for admission. Thus, admissions are confined to the more serious cases on the waiting lists. This tends to fill the institutions with cases which are less likely to return to the community, or, in other words, are more likely to become permanent residents. Then a diminishing discharge rate is observed. This is followed by the appearance of overcrowding within our State schools.

The vicious circle has progressed to the point that we are now ready to view its effect upon the admission rate. Table F outlines the average number of cases admitted over the three five-year periods as compared with the average rated capacities of the State schools. Here we note that the admission rate per 1,000 available beds was 160.1 for the period 1915–1919. In 1920–1924 this rate had decreased to 143.8. In 1925–1929 it showed even a more decided drop to 106.5. That is, with the appearance of overcrowding, we see the obvious necessity for further restriction of admissions. Under these conditions, the institutions are becoming less and less able each year to serve the community from the standpoint of withdrawing even the urgent cases of mental defect from the community.

TABLE F. — *Average Number of Cases Admitted for Three Five-Year Periods: Admission Rates per 1,000 Beds Available according to Rated Capacity of All State Schools.*

	Average Number of Admissions	Average Rated Capacity	Admission Rate per 1,000 Available Beds
1915–1919	428.4	2,675.0	160.1
1920–1924	439.2	3,053.0	143.8
1925–1929	337.2	3,539.6	106.5

COMMENT

In the face of the observed rapid increase in demand for admission to our State schools, we may inquire into the chief elements contributing to this increase. Why did 2,558 children attempt to enter our State schools in 1929 as compared with only 388 in 1915? Is the increased demand for admission due to a better understanding of the Massachusetts program, and wider dissemination of the knowledge that mentally defective children make better progress under the specialized training offered by the State? The Massachusetts training program was inauguarated in 1848 when the first State school was opened. Dr. Samuel G. Howe at that time made it clear that training must be the basic foundation of our State program for the care of the mentally defective.

If the present rapid influx were due to the dissemination of the above information, we would expect that the increase in interest would have had its effect during the 67 years of State school operation prior to 1915.

There is another possibility. Sociologists have observed that demands for assistance increase markedly whenever assistance becomes available. Has the increase in number of beds stimulated a demand as the facilities have become available? However, our demand for State school admissions has far exceeded the slowly increasing facilities, and has become manifest chiefly over the past fifteen years. Some recently developing situation has caused the demand to go forward by leaps and bounds.

We may generalize on this point and say that evidently the increasing demand has not been the result of propaganda, nor has it been the result of more widespread education and better knowledge of available facilities in the line of State school training. These elements have probably played some part in the increased demand. The suggestion remains that present day economic and social trends are making it increasingly difficult for the untrained mental defective to succeed or to adjust in the community.

Viewing the situation as a whole, we note the occurrence of a gradual slowing down process in the Massachusetts program for State school training of the mental defective. From the first, the background of institution care of the mentally defective in Massachusetts has been one of training and not one of custodial care. The placing of training in the foreground was first developed by Dr. Howe, and was persistently carried through by Drs.

Fernald and Wallace. We now see the accumulation of various factors which apparently endanger the continuation of the training program. In the presence of inadequate bed provision our State schools will tend to become permanent custodial institutions for the most unpromising type of the mentally defective. Discharge rates will steadily diminish. The overcrowding will show definite increases. The admission rates will show definite decreases. The rapid fall in the rates mentioned justifies the prediction that under present conditions it will not be very many years before these institutions will cease to function except in a very limited capacity.

Statistical Implications

In judging the value of the above data here presented we find ourselves in more or less of a quandary. The material produces results which are in striking agreement and which appear to be of pronounced significance. The data are so conclusive that we are justified in asking whether or not they may be *too good.* In any statistical analysis presenting such striking agreement we are justified in scrutinizing the data with a critical eye, for there is always the possibility that chance has played a large part in the agreement.

In this material, however, we have not one but several items which point in the same direction. We note the factor of gradual increase in bed provision failing to meet the marked increase in demand for admission; the decreasing number of admissions in proportion to those on the waiting lists; the lowered intelligence quotient of admissions; the decreasing number of discharges per 1,000 cases under treatment; the increased overcrowding; and the diminishing admissions per 1,000 beds available. Here we have a set of six very definite factors all operating in the same direction and apparently closely correlated. It is hardly reasonable to expect that agreement would be evident in all of these purely by chance.

It is perhaps unfortunate that material is not available for developing time series of greater length. The fifteen year period involved is comparatively short. This fact becomes especially obvious when we compare it with the sixty-seven year period of State school operation immediately preceding. Many factors have developed since the first school was opened in 1848, and many of these, in all probability, have produced results which have only become evident in the period which we are considering. Thus, within such a short period, one factor cannot be considered as causative of another. In this fifteen year study we are simply viewing short sections of the curves representing the trend of each of the factors involved. We are viewing well developed trends which are the result of the operation of unfavorable conditions over a period of many years.

From the point of view of the statistician, our data are sufficiently reliable to enable us to make one suggestion as to the probable outcome over a long period of time. This suggestion is that the *observed conditions will continue to show their present unfavorable tendencies unless decided efforts are made to alter the known factors which are contributing to them.* The task of correction is one which will require extraordinary effort. A change of policy is not enough, for by this means alone the correction of existing faults would be extended over many years.

A Suggested Program

At the end of 1929 there were 3,941 cases in residence in our three State schools. At the end of the year there were 2,558 cases on the waiting lists. It should be remembered that all cases on the waiting lists are active urgent applications for admission. If we add the cases within institutions to the urgent cases on the waiting lists, we have a total of 6,499 cases which should have had institutional provision at the end of 1929. To care for these, there was available a total of 3,654 beds or 56 per cent of the demand. (It may be well to mention here that the waiting lists, large as they are, do not represent the entire community demand. Welfare agencies, court officials, school officials and others have become so discouraged at their previous lack of success in having cases admitted that many no longer trouble to make application. The community demand as measured by waiting lists is considerably under the real demand.)

It is suggested that existing State schools be immediately enlarged to a 2,000 bed capacity, and that plans be drawn and a site purchased for the erection of a fourth State school to accommodate 2,000 patients. This will provide 6,000 available beds to house the 5,600 cases already within institutions plus the urgent cases seeking admission. In addition, we should immediately start construction on a new institution to house the 500 cases which remain unprovided for, and to take care of the waiting lists of future years. From the construction standpoint it will be at least three or four years before such an institution can be of any relief to the problem. Our waiting lists of unsuccessful applicants are accumulating, at present, at the rate of 500 per year. Thus, within a period of four years, we will have an additional 2,000 cases seeking admission. This, in combination with the 500 cases not taken care of previously, will leave a total of 2,500 cases to be taken care of by the new institution built to accommodate 2,000 patients. Eight thousand beds for the mentally defective in Massachusetts would make it possible for institution executives to expand the training program of former years, and would insure a return to the community of larger numbers of the more favorable cases.

In addition to the mere adding of larger numbers of beds, there are many other things which must be considered in the proposed construction program. We wish to regard these State schools primarily as training schools. They will need special facilities in order to provide educational opportunities. In addition, they will need training facilities in order to place in the hands of the child some means of earning a livelihood. In our new scheme of things we should lessen our concentration on the intelligence and apply more effort to the training of the child for productive work and for social adjustment in the community. These are the goals to be attained. But adequate equipment is a vital necessity. In the past it has been comparatively easy to secure additional beds, but extremely difficult to secure appropriations for needed training equipment. A well balanced program must consider equipment as the first necessity It is a short sighted policy which increases bed capacity without providing adequately for the satisfactory training of the children who will occupy those beds.

In studying this matter of adequate provision, we need to keep the two-fold function of our State schools in mind: (1) The schools *must* provide for a certain number of low-grade cases, for cases with certain conduct disorders, and those with particularly trying environmental situations. (2) The schools *should* provide 'for certain types of cases with slightly higher intelligence quotients and fewer unfavorable social and personal characteristics. This group is made up of those for whom the most constructive work can be done.

A constructive program will recognize the fact that there is only one way of preparing certain types of mental defectives for community life. A plan is necessary which cares for them twenty-four hours of the day, and thoroughly trains them in the necessary elementary social usages. Mental defect does not necessarily result in social deficiency. The child may have social traits which are average when checked against the normal for social behavior. If we can develop average social characteristics and guide and fix them in normal channels, we have made as great a contribution as though we were able, in some magical way, to raise the intelligence quotient 20 points. A child able to "get along" with others has an even better start on the road to success in life than the brighter child without favorable social characteristics. However, this development cannot be accomplished in a moment. It is a matter of subjecting the child to daily contact with a training program which has as its basis the thought of developing the best of his characteristics. The mental defective may have an unusual financial sense, good social characteristics, mechanical inclinations, or ability as a housekeeper. The development of any one of these characteristics may provide the means for self-support, even though the individual remain deficient in intelligence. Below average characteristics which bring the child into conflict with others need correction, of course. However, the most effort should be expended on the development of positive characteristics, the training of social characteristics and the very necessary matter of providing these children with the means of earning a livelihood.

We are coming gradually to understand the relative unimportance of "intelligence,' so-called. Of course this does not apply to the obviously lower grade cases. Yet, there are vast armies — I think I am safe in saying millions — of children in the moron and borderline groups who in the future, will be absorbed in the adult population of this country *Society will not demand intelligence of these citizens, but rather the ability to earn a livelihood and to make certain social adjustments.*

EFFORTS OF THE STATE TO MEET THE COMMUNITY DEMAND, 1915–1929

The above analysis appears to criticize our program of institutional provision for the mentally defective. Before we come to any definite conclusion in this matter let us see the actual efforts made by the State to meet this demand, and how mental defect has fared in comparison with other phases of mental disorder.

In 1915 the rated capacity of our State schools was 2,488 beds. In 1929 this capacity had increased to 3,654, or an increase of 46 8 per cent. This increase over the fifteen year period represents a capital outlay of $3,833,000, or a per capita cost of $3,280 per bed.[2] Thus, we see that there has been a definite effort on the part of the State to meet the demand for additional provision.

Let us compare this with the increase of bed capacity in mental hospitals. In 1915, the capacity of all public mental hospitals was 13,948. At the end of 1929 this capacity had increased to 14,198 beds, an increase of 21.5 per cent. When we compare the increase in State school beds of 46.8 per cent, we observe that the increase in provision for mental defective has been more than double that of the increase for mental diseases.

MASSACHUSETTS PROVISION FOR MENTALLY DEFECTIVE COMPARED WITH THAT OF OTHER STATES

Let us compare the present Massachusetts provision for the mentally defective with that of other States. Table G outlines the patients in schools for mental defectives for certain eastern States, and compares this number with the estimated population of these States for 1929. The rates for existing beds per 100,000 of the population are also given. We observe that Massachusetts has a rate of 94.6 persons within schools per 100,000 of the

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[2] These figures were prepared by Mr. Walter E. Boyd, Chief Engineer, Department of Mental Diseases. He draws attention to the fact that the costs of construction at the new Belchertown State School elevate the per capita cost due to the fact that the service units will be to a large extent adequate for the completed institution. Consequently, the costs per bed of subsequent construction will be lower. This will lower the average cost per bed to a figure under $3,000.

State population. This rate is exceeded by only one of the ten eastern States summarized, and is distinctly above the average figure of 73.8 for the whole group. We note also that the Massachusetts rate of 94.6 is nearly double that of the entire country, a rate of 50.6. There is no indication that Massachusetts is lagging behind other States in providing for its mental defectives.

Inasmuch as we have seen the results which follow inadequate institutional provision for the mentally defective we can surmise the situation which must exist in States that are doing even less than Massachusetts. With the forced retention of even greater numbers of mentally defective individuals within the community, we can only guess at the tremendous debt which society is accumulating in these other states.

The above material has been added to demonstrate that there has been no tendency to overlook this important problem in Massachusetts, and to show that the conditions and situations which developed have come about in spite of a marked effort to meet the problem in a thoroughgoing manner.

TABLE G. — *Patients within Institutions for Mental Defectives in Certain Eastern States: Rates per 100,000 Population, 1929.**

STATE	Estimated Population July 1, 1929	Mental Defectives within Institutions Number	Rate
New Hampshire	458,000	488	106.6
Massachusetts	4,344,000	4,108	94.6
New York	11,695,000	9,913	84.8
Maine	798,000	665	83.3
Vermont	352,428	266	75.6
New Jersey	3,904,000	2,902	74.3
Rhode Island	730,000	508	69.6
Delaware	247,000	158	64.0
Connecticut	1,703,000	965	56.7
Pennsylvania	9,995,000	5,320	53.2
Total — 10 States	34,226,428	25,293	73.8
All other States	87,574,572	36,294	41.4
United States	121,801,000	61,587	50.6

*Adapted from Table IX in a paper by Brown, F. W.: A Statistical Survey of Patients in Hospitals for Mental Disease and Institutions for Feeble-minded and Epileptics in Thirty-two Countries. Proceedings of International Congress for Mental Hygiene, 1930.

SUMMARY

1. Over the past fifteen years there has been a tremendous increase in the demand for State school training of mental defectives. At the end of 1929 there were 2,558 names recorded on the waiting lists of our State schools (Graph I). With the demand far ahead of the available bed provision, an increasingly difficult problem faces the State school superintendents in increasing proportions each year. They have thousands of cases on their waiting lists, and from these must select two or three hundred for admission.

II. The enforced selection of cases is shown by the number of admissions as compared with the number of cases on the waiting lists (Table A). In 1915–1919, 68.5 per cent of cases on the waiting lists were admitted. In 1920–1924 this figure was lowered to 39.9 per cent, and in 1925–1929 had decreased still further to 16.5 per cent.

III. The selection of lower grade cases for admission is shown in a striking manner by the intelligence of admissions to one of our State schools (Table B). The average intelligence quotient of all admissions to the Wrentham State School in 1915–1919 was .53. In 1920–1924 this had diminished to .49. In 1925–1929 it had decreased still further to .45.

IV. The importance of the decreasing intelligence of admissions is emphasized when we observe that cases in the lower intelligence levels remain in State schools for longer periods of time. Table C shows that among the discharges the idiots remained an average of 13.8 years, imbeciles 11.2 years, morons 7.0 years, and cases not mentally defective 5.6 years. In the deaths we note that the idiots remained an average of 15.6 years, imbeciles 14.6 years, morons 10.8 years, and cases not mentally defective 5.6 years.

V. The seriousness of a decreasing intelligence in admissions becomes apparent when we observe the smaller percentage of lower grade cases discharged. Graph II demonstrates that 32 per cent of idiots in residence in all State schools on January 1, 1917 were discharged during the succeeding fourteen years. For the same period there were discharged 42 per cent of the imbeciles, 69 per cent of the morons and 83 per cent of the borderline or dull normal groups. Thus, we note the greater likelihood of discharge among the higher grade cases and the inevitable retention of cases of lower mental grade. As the intelligence of admissions decreases (Table B), we may predict an inevitable lowered discharge rate due to the presence of a larger proportion of lower grade cases.

VI. It appears that the foregoing prediction of a lower discharge rate has already occurred. During 1915–1919 the discharge rate per 1,000 cases under treatment was 90.3 For the period 1925–1929 it had decreased to 76.6 (Table D).

VII. The increasing numbers of urgent cases seeking admission have subjected the superintendents to considerable pressure. This increased demand in combination with other factors has resulted in overcrowding which, in 1925–1929, reached 6.72 per cent (Table E).

VIII. Overcrowding, in turn, has brought about a check in the number of cases admitted. Thus, we observe that the admission rate per 1,000 available beds fell from 160.1 in 1915–1919 to 106.5 in 1925–1929 (Table F).

IX. The evidence points to an enforced slowing down of our long established training program for the mentally defective. The increased waiting lists, limited building program, admission of unpromising and lower grade types, diminishing discharge rates, overcrowding, and decreased admission rates demonstrate that our State schools will find it increasingly difficult to continue to function as training schools.

X. It appears advisable at this time to enlarge our State program for the care of the mentally defective. An increase in facilities would allow us to select, admit and train a larger proportion of the younger morons on our waiting lists with the thought of intensive education, vocational effort, and possible return to the community. Training of these younger mental defectives should be centered on instruction in the means of earning a livelihood, and on the development of good social characteristics. In the past too great a concentration on "intelligence" has resulted in an undervaluation of the above factors. In the future society will not demand intelligence of these children, but rather the ability to earn a livelihood and to adjust to the social demands of the day. Our State program should be based upon training for productive work and for social adjustment. This is preventive work of the highest order. At present we have not been successful in eradicating mental defect itself. However, it is within the realm of possibility to prevent the social failure which makes mental defect conspicuous.

XI. The three Massachusetts State schools have a combined capacity of 3,641 beds. It is suggested that each of these schools should be enlarged immediately to a 2,000 bed capacity. This would provide 6,000 beds to house the 6,499 cases now in institutions or on the urgent waiting lists. Plans should also be drawn immediately for a fourth State school to house the waiting list cases of the future which are accumulating at the rate of 500 per year.

In this building program the provision of adequate equipment for educational and vocational training should be a primary consideration. Increases in bed capacity or the mere housing of additional numbers of children mean little. We must, in addition, provide the equipment for a well-rounded training program.

XII. The startling increase in the numbers of children seeking admission to our State schools suggest that the mentally defective child is having great difficulty in adjusting to present day community life. Numerous economic, environmental and personal factors are making him unable to succeed or adjust to such an extent that thousands are attempting to enter our State schools where hundreds came before. We see an urgent need for a radical change in our program for the State care of the mentally defective. A definite increase in our present provision is urgently needed if we are to continue the well laid out training program of Howe, Fernald and Wallace, and meet the problem in a manner calculated to best serve the interests of society.

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GENERAL LAWS, BY

JAMES V. MAY, M. D.
GEORGE M. KLINE, M. D.
DOUGLAS A. THOM, M. D.

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In eleven homes, the children get along together very poorly. In 7 of these, the children are jealous of each other.

The children in two families have been placed by health organizations out of the home for building-up purposes. These placements are not permanent but in both cases they are recurrent. Three children of 3 different families are in homes of foster parents as their own parents were inadequate in disciplining and caring for them. The mother who never married has placed her child out so that she can work outside the home.

Discipline:

Methods of disciplining the children are not classified in groups such as good, or bad, but rather are left as expressed by the parents. It is interesting to see that such a large number of fathers admit they take no hand in this and also to see that they are less erratic in discipline than the mothers. (Three fathers see their children only on weekends.)

Methods of Discipline Used:	*By Mothers*	*By Fathers*
Erratic (contradictory)	10	1
Indulges	8	6
Isolation	8	6
Hits and yells	7	0
Threatens	4	2
Hits and scolds	3	4
Severe	3	3
Abusive	2	1
Spanks	2	5
Reasons	2	1
Whippings	1	1
None-easygoing	–	15
Unknown	–	3
Dead or away from home	–	2
	50	50

The eight mothers who isolate the children for bad behavior employ this method after instruction at the Habit Clinic. Nineteen couples disagree regarding the discipline of their children. In other words, over a third of the parents give their children opportunity to play one parent off against another. In 10 homes, relatives interfere with the parents' discipline of the children.

There are 16 Jewish couples, and a Jewish mother and father (who have married Gentiles) in this group of parents. Our findings bear out the fact that these people are over-emotional regarding their children.

Methods of Discipline Used	*By Jewish Mothers*	*By Jewish Fathers*
Indulges	7	6
Erratic	5	0
Severe	4	4
Isolates	1	0
None	0	7

It is shown that 7 of these mothers, out of the total of 8, (see preceding chart) are indulgent in dealing with their children, and the fathers who indulge their children are all Jewish. On the other hand, 4 of the 5 mothers, and all of the fathers who are severe or abusive to their children are Jewish. One couple was so incapable of managing a son, they both threatened to leave home on account of his bad behavior. Another Jewish mother is completely dominated by her son.

Occupation and Income:

The following shows the types of occupations of the patients before their marriage:

	Mothers	*Fathers*
Factory	22	4
Clerical	6	1
Saleswork	5	7
Housework	4	–
Nursing	3	–

Social Work	3	–
Waitress	2	–
Teaching	2	–
Technician	2	–
None	1	–
Many odd jobs	–	17
Labor (unskilled)	–	6
Mechanics	–	4
Professions	–	4
Painting	–	2
Army	–	1
Baseball professional	–	1
Farming	–	1
Unknown	–	2
	50	50

Only one mother did not work before marriage. Patients may not have been employed continuously along these lines only, up until marriage, but they did most of their work in the above occupations.

The type of work which the mothers are doing at the present time is shown as below:

	Number of Mothers	*Length of Employment*	*Number Working Out of Home*
Housewife	43		
Clerical	2	(Temporary; part-time	1
		(Permanent; full-time	1
Saleswork	2	Occasional; part-time	2
Social work	1	Permanent; part-time	1
Hairdresser	1	Occasional; part-time	
Laundry	1	Permanent; full-time	1
	50		6

Only three mothers are employed in steady work, 1 a stenographer in her husband's store, and 1 a laundress. The other, a social worker, works part-time. The other 4 work only occasionally and then never the full day. Three mothers are losing gradually their status as a mother, because of working outside the home, and their children are substituting someone in their place.

The percentage of patients' mothers who worked outside the home was 13 per cent compared to that of our patients which is 12 per cent. The general idea exists that married women are being employed in greater numbers than ever before. These percentages are so close as to refute this. How much the present widespread unemployment has to do with this fact can probably be better answered years hence.

Of the seven mothers who work, 1 gets no salary because she works for her husband and another works for her fiancé to help him. The average income of the other five mothers is $7.60 per week. Conditions being what they are, the mothers in this study are not helping economically very much in the support of their families.

Five families are able to increase their earnings by renting rooms or flats. To 3 of these families this added income is quite essential.

When employed, the occupations of the fathers are as follows:

Professional		6	Tailor	5
Executive	.3		Factory	5
Engineering	.1		Chauffeur or truck-driver	4
Woodcarving	.1		Painter	4
Minister	.1		Odd jobs	3
Mechanic		7	Butcher	2
Salesman		6	Cook	1
Laborer		6	Clerical	1
				50

(In this are included the father who has died who was a bricklayer and the father, ing such interest shown in them. First of all, a certain type of person would object to a state department having "their record." Some might think their confidences were to be made public and would be less frank in their conversation. One or two laughingly or proudly asked if their story wouldn't make pretty interesting reading. A few, the friendly and "willing" never thought of asking why they were singled out to give such details and probably some, especially the foreign-born, believed that to be linked up with any social agency meant answering a lot of questions. To those who were interested in knowing, the project was explained in detail and they were most responsive. Especially were we impressed by the willingness of these parents to be so frank. Some of them, and particularly mothers, seized on the chance of confiding in some one, some one who was more or less impersonal, unrelated, and whom they would not see again. There were those who wanted help and those who liked attention. Very likely a number of patients co-operated because it gave them a chance to see a doctor free of charge, from whom they could ask medical advice. There were the "intellectually curious" who had read books on mental hygiene, or had taken a course in abnormal psychology. They were admittedly curious and some skeptical regarding the psychiatric approach and treatment. There were those who refused to see the doctor — some perhaps because they had court or prison records, or had been in a state hospital. There were others who said they were physically and mentally well and therefore did not need to see a doctor, and if they were really ill, they didn't want to know it. However, with all these different attitudes on the part of the subjects, the interviews were for the most part successful.

Material:

Sixty-two pairs of parents were referred for this study. Twelve of these were not included for the following reasons: three mothers were under treatment of psychiatrists and it was thought our interviews might interfere with their psychotherapy; two mothers were too busy socially to give any of their time, and two mothers became unwilling to co-operate with the habit clinic before they were approached regarding this study which precluded their being co-operative with us; one family could not afford the carfare involved and one mother was under too much strain with an impending operation, although both would have co-operated under different circumstances: one father was abnormally shy and refused even to see the habit clinic psychiatrist, so that lack of co-operation was expected; one mother stated frankly she was uninterested in co-operating; one family had moved out of the state.

Fifty mothers gave their own social histories to the social worker and forty-eight were interviewed by the psychiatrist. The other two refused to co-operate. Forty fathers gave their social histories, and mothers gave the remaining ten histories of their husbands. Twenty-eight fathers kept their appointments with the psychiatrist. Of the other twenty-two, two were away from home and one dead, three had recent court records and one had been a patient in a state hospital, which might have made them wary of a "mental examination"; eleven were frankly uninterested in the study: one father was in ill health and unable to leave home, and one would have co-operated but his wife became antagonistic to the habit clinic, and the good contact was broken: two fathers were unable to keep their appointments because of long working hours.

About fifteen months of half time work on the part of the social worker and part time by the psychiatrist were required to complete the actual investigations and examinations of the patients in this study.

Definition of Classification Used:

Before presenting the material, we think it advisable to define briefly some of the terms used later in this paper:

Personality as used in this paper means the sum total of characteristics as shown by the physical inheritance, intelligence, mental content, and emotional reactions, all of which, according to their varying combinations, distinguish one individual from another. The intelligence of the patient is judged by his schooling, achievements, judgments, and interests. (Intelligence quotients were not obtained.) Mental content is judged by the patient's desires, ambitions, repressions, compensatory outlets, etc. An emotional reaction signifies his attitudes and adjustment to situations and pressures arising in everyday life.

Normal Personality has been considered that which embraces good intellectual endowment, self-criticism, good insight, and adequate adaptability to the environment.

Extrovertive and *Introvertive* types mean the happy-go-lucky and the introspective types of people.

Situational neurosis signifies that pressures of external factors have been great enough to affect the personality of the subject temporarily, but with the removal of these pressures, one expects to see the personality revert to its former self. A situational depression, for instance, is of known etiology and therefore we have considered it more logical to name it this than to suggest that it might be constitutional.

Hysteria denotes an epsiode during which a mental conflict is dominant, coincident with a physical disturbance.

Neurasthenia applies to those who show fatigue, irritability, who have many physical complaints, and are apt to have crying or depressed periods.

Constitutional psychopathic inferiority, or *psychopathic personality* as we have used it, denotes a deviation from the normal in the makeup (not in the intelligence) of a personality. This grouping includes those who have peculiar trends of interests, who are not inclined to follow any regular occupation, who show some "moral deficiency," those who are boastful, egocentric, weak-willed, irresponsible, quarrelsome, irritable, and those who show immature judgment.

The *paranoid* classification includes those who show well defined persecutory or dominant ideas and fixed suspicions which are elaborated upon in great detail.

Manic-depressive personality is that which reveals no psychosis but which has periods of overactivity and elation mingled with periods of underactivity and mild depression.

Schizoid personality applies to those patients who are seclusive, shut-in types, those who have defects of interest, of judgment, and lack of normal emotional reactions.

The patients were diagnosed by the psychiatrist according to the characteristics outstanding in their personalities. It is, of course, impossible to classify every patient in one or another of these groupings and some cases, therefore, were left at a descriptive level. In this last group are included those who were not seen by the psychiatrist.

To obtain a good picture of an individual personality, it is necessary to know the background of that personality. In this study, the most important aid in classifying the personality we have found to be a complete social history. This history was divided into three sections, (the patient's early family life, personal life, and personality traits). In studying these sections in detail, we have found the following important and interesting statistical facts.

EARLY FAMILY LIFE

We wish to point out again before presenting the following material that the subjects whom we have studied are the parents of habit clinic children and shall be designated as "patients" in this paper. "Patients' parents" as employed for this section are, then, grandparents of habit clinic children.

Nativity:

About two-thirds of the parents of our hundred patients were born in Russia and in the United States. The chart below shows the distribution according to other countries.

	Birthplace of Patients' Fathers	Birthplace of Patients' Mothers	Total
Russia	31	31	62
United States	31	30	61
Italy	11	11	22
Canada	6	8	14
England	4	6	10

Poland	4	3	7
Germany	3	3	6
Ireland	3	2	5
Scotland	3	1	4
Austria	1	2	3
Norway	1	1	2
West Indies		1	2
Lithuania	1	1	2
	100	100	200

Forty-six or about one fourth of these parents never came to the United States. The others began a slow migration around 1860 and came in largest numbers between 1900 and 1910.

Time of Arrival in U. S.	Number of Parents	Time of Arrival in U. S.	Number of Parents
Life	61	1890–1899	21
Never here	46	1900–1909	24
1860–1869	5	1910–1919	12
1870–1879	1	1920–1929	2
1880–1889	11	Unknown	17
			200

The following chart shows the citizenship of these two hundred parents.

	Fathers	*Mothers*	*Total*
U. S. citizen by birth	31	30	61
U. S. citizenship papers	22	8	30
First papers	2	0	2
Not citizens	5	13	18
Unknown	15	28	43
Never here	25	21	46
	100	100	200

That more of these fathers than mothers are interested in becoming citizens is to be expected.

There are only two races represented — white 191, and black 9.

Education:

The extent of the education of these parents is shown:

	Fathers	*Mothers*	*Total*
Those receiving no schooling	29	36	65
Only religious education	14	2	16
1st–6th grade	10	8	18
7th–8th grade	13	12	25
1st-3rd year high school	2	2	4
Graduated from high school	3	6	9
1st-3rd year in college	1	3	4
Graduated from college	5	0	5
Medical college	2	1	3
Unknown	21	30	51
	100	100	200

The fact that one-third of the parents were Jewish accounts for more mothers going without any schooling, as well as accounting for more fathers receiving religious training. Most of these people were in Russia where it was difficult for Jews to obtain any schooling; most of them were poor and could not afford tutors, and thirdly, the education of the boy is of greater importance that than of the girl in the eyes of the Jews.

Eighty-one out of 149, (whose education is known) or 54 percent of the parents, received no formal schooling. Eighteen or 12 percent went into the first grades and twenty-five, or 17 percent, attended grammar school. Thirteen or 9 percent went to high school and twelve or 8 percent went to college. (The education of one-forth of the 200 parents is unknown.)

Religion:

The patients' parents' religion is divided as follows:

Protestant	72	
Greek Catholic	3	(1 later converted to Orthodox Jew)
Orthodox Jew	65	
Reform Jew	2	
Roman Catholic	55	
Unknown	3	
	200	

Personalities of Patients' Parents:

Regarding the personalities of these parents, it is interesting to note that the patients volunteered considerably more information about their fathers than about their mothers. The most frequently mentioned characteristics of both parents were — first, bad temper and irritability; second, easygoing disposition, and third, domineering attitude. There were several instances where the mother was easy-going and the father domineering and other instances where the reverse was true. There were six female and six male patients who favored their mothers, but there were twelve female and three male patients who favored their fathers. Eight female patients openly admitted they disliked their mothers and four female and three male patients disliked their fathers.

Marital Adjustment:

Regarding the parents' marital adjustment, there is little information as the patients for the most part said they had no knowledge of this. However, three couples were fairly happily married and six very happily married. Sixteen said their parents got along very poorly. Three couples were divorced, and three fathers and one mother deserted. There were two cases of differences in color between the parents (negro and white) and a third case where a colored woman and a white man probably had an illegitimate son who is one of our patients. (He passes now as white). Two cases had wide differences in age in the parents — one father was 70 and the mother 24 and one father was 40 and the mother 18 at the time of the patients' birth. There were 5 marriages between Roman Catholic and Protestant adherents. There was no instance of Jews intermarrying (with the exception of the second marriage of a Jewess to a Russian Greek Catholic, who became an Orthodox Jew.)

Sixty-seven pairs of parents lived together until the patients were sixteen years of age. In other words, two-thirds of our patients had both parents during childhood up to this age. Thirty-two patients or one-third, were brought up in homes where the father (13) or mother (12) had died or where there had been divorce (2) or desertion (3). One patient was an orphan at twelve years of age and another patient was an illegitimate child. The parental situation in one case is unknown.

Ten step-mothers and five step-fathers were in the broken homes during the childhood of the patients. (More recently this number had increased to eleven step-mothers and eight step-fathers, and there has been one more instance in both divorce and desertion.) One patient was brought up entirely by his grandparents.

Discipline:

We find that sixty-eight parents, (including four fathers and four step-mothers, and two mothers and two step-fathers) shared in the disciplining of our patients. Eighteen patients were reared almost exclusively by their mothers and seven by their fathers. Six were brought up by grandparents or relatives and one by foster parents. These parents employed many methods of discipline. The following shows the order of the methods in which their children were most frequently punished.

Spanking
Strict, scolding
Eratic (contradictory)
Abuse
Isolation
Bribery
Reasoning
"Children obeyed"
Fear

Economic Status:

Economically, the status of these families is below normal and this too is accounted for by the large number of Russian Jews who emigrated to better their conditions.

Very poor	36	Comfortable	14
Marginal	24	Unknown	1
Fair	25		
			100

The different types of work which these 100 fathers did are shown by the following:

Unskilled labor	12	Merchant	25
Skilled labor	44	Professional	10
Clerical	1	Unknown	8
			100

Thirteen mothers, of 13 percent of all mothers, worked outside the home — 2 professionally, 1 as a doctor and 1 as a teacher; 3 had charge of small stores, 1 did factory work, 6 had menial employment, and the type of work the other did is unknown.

Health:

As for the health of the parents of these patients, sixty fathers and 42 mothers were always well. The other 98 suffered with such chronic illnesses as diabetes, heart trouble, rheumatism, tuberculosis, cancer, and other less serious illnesses. At the present time 47 fathers and 59 mothers are still living. The causes of the others' deaths were as follows:

Pneumonia	12	Accidents	5
Shock	12	Others	22
Cancer or ulcers	8	Unknown	11
Heart trouble	7	Unknown whether parents living or not	4
Starvation	6		
Diabetes	5		
Tuberculosis (contributory diseases 3)	2		94

Siblings:

The total number of siblings in 95 families (5 cases unknown) was 613, making an average of 6.5 children per family. (The mean was 7 per family and the mode 6.5)

Number of Children	*Frequency*	*Number of Children*	*Frequency*
1	3	10	1
2	9	11	4
3	9	12	2
4	9	13	4
5	5	14	1
6	16	15	0
7	16	16	1
8	7	17	1
9	7		
			95

It is interesting to note that only three families out of 96, then, had only one child. (However, three other patients were brought up as only children either because of the death of a sibling or a broken home.)

The following chart shows the ordinal positions of our patients among their siblings:

Ordinal Positions	*Frequency*	*Ordinal Position*	*Frequency*
1	20	9	0
2	22	10	0
3	15	11	1
4	11	12	2
5	8	13	0
6	3	14	1

7	4	15	0
8	3	16	1
Total			91
Unknown			9

Twenty patients were the olderst by birth (and one was brought up as the oldest after the death of a sibling.) Twenty-one patients were the youngest siblings of their families or were reared as the youngest.) Forty-three patients were middle children. Nine instances are unknown.

The average education of the brothers and sisters of our patients is shown:

None	5	High school	20
Only religious training	4	H. S post-graduate or college	18
1st–6th grade	20	Unknown	14
Grammar school	19		
			100

Comparing the schooling of the parents with that of their children by means of percentages, we find, as one would expect, an increase in the extent of the younger generation's education:

	Patients' Parents	*Patients' Siblings*
No formal education	54%	11%
1st–6th grades	12%	23%
7th–8th grades	17%	22%
High school	9%	23%
High school post-graduate course or college	8%	21%

The following chart denotes the favoritism shown in these families for these siblings:

	Female Patients' Families	*Male Patients' Families*	*Total*
No favoritism shown	13	18	31
Favorite of both parents	6	6	12
Shared favoritism of both parents with siblings	0	1	1
Favorite of mother	1	0	1
Favorite of mother while another sibling is favored by father	1	0	1
Favorite of father	4	1	5
Favorite of father while another sibling favored by mother	5	2	7
Other sibling favored by parents	7	4	11
Parents disliked all children	1	0	1
Only or brought up as only children	3	3	6
Unknown	9	15	24
	50	50	100

The parents showed favoritism in one-half the cases — 38 out of seventy-six instances, (24 cases being unknown.) Twenty-seven patients of the 38 were preferred over their siblings by their parents. The mothers showed no favoritism for male patients but nine fathers favored female patients. (Of these, 7 preferred their fathers and it is unknown which parent the other 2 favored.)

It was previously mentioned that 12 female patients preferred their fathers to their mothers. Of these 12, 7 are their father's favorites, 2 are only children, and in 1 family, the patents' favoritism is unknown. Another female patient prefers the father because the mother dislikes children and the other because she resents the mother's show of favoritism for a sibling.

In eleven families, a sibling other then a patient was favored by the parents and one male and four female patients resented this favoritism. (One of these female patients was herself the favorite of one parent.)

Regarding the childhood of the patients among their siblings:

	Female Patients	*Male Patients*	*Total*
Got along well with siblings	22	15	37
Very happy childhood	2	3	5
Youngest by many years and therefore babied	2	4	6
Only children	3	3	6
Very lonely	2	1	3
Babied and spoiled	3	0	3
Quarreling with siblings	7	5	12
Jealous of siblings	4	3	7
Responsible for siblings	4	0	4
Siblings black sheep in families	4	1	5
Patients black sheep in families	0	8	8
All members of family irritable	4	0	4
Very unhappy home life	2	1	3
Unknown	5	12	17

Probably the most striking thing about these figures is that eight male patients were the "black sheep" of their families.

Of the known number of 613 siblings, 174 or 28% have died. The causes of their deaths were:

Infancy sicknesses	44	Convulsions	4
Childrens' diseases	19	Tuberculosis	3
Typhoid fever	13	Meningitis	3
Stillbirths	12	Childbirth	3
Accidents	9	Others	5
Pneumonia	5	Unknwon	50
Cancer	4		
			174

Of the living siblings we know that four have tuberculosis, one post-encephalitis, one cancer, and one chorea. (These do not include our patients.)

Asocial Behavior:

In twenty-nine families we find the following types of asocial behavior. (These figures do not include our patients.)

Father alcoholic	18	
Brother alcoholic	12	
Mother alcoholic	2	
Sister alcoholic	2	
Stepfather alcoholic	2	
		36*
Father deserted		3
Mother deserted		1
Father immoral		4
Mother immoral		2
Father dishonest in business dealings		1
Sister a prostitute		1
Sister a bigamist		1
Brother "always in trouble"		1
Brother stealing		3
		53
Familes represented above	29	
No asocial behavior	31	
Unknown	40	
		100

Alcoholism leads with 36 instances in 21 families, an average of 1.7 per family. In only twenty-nine cases there are the above 53 asocial acts in members of the patients' families and we can say, then, that there is an average of 1.8 asocial acts in each family showing this type of behavior.

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*Alcoholism.

Familial Diseases:

The following chart shows the number of serious familial diseases:

Diseases		*Number of families showing disease*	
Cancer and tumor		22	
Tuberculosis		20	
Diabetes		9	
Heart trouble		8	
Bright's Disease		4	
Endocrine disturbance		3	
			66
Number of familes represented above	40		
Familes with no serious diseases	43		
Serious diseases unknown	17		
		100	

It is unknown whether 17 families had any of the above diseases. The remaining 83 families were divided almost equally among those which had and those which were free from these diseases. However, 40 families had an average of 1.6 of these illnesses.

In the social histories, we find the following number of families showing mental disorders:

Mental Disorders		*Number of Instances*
Insanity		14
Feeblemindedness		7
Convulsions		5
Epilepsy		2
Encephalitis		1
Suicide		1
Nervous disorders (pathologic cases)		15
Nervous, unstable family stock		51
Nervous breakdowns		5
Chorea		1
None	14	
Unknown	35	
		49

Of the hundred families, it is not known whether 35 showed any of these mental disorders or not. Fourteen, however, were free from them. The remaining 51 families, then, had the above mental and nervous disorders. (This number does not include the families in which our patients alone showed these disorders.)

PERSONAL HISTORY OF PATIENTS

From now on, our subjects are referred to as patients, parents, mothers or fathers.

Nativity:

Over half (56) of the patients are native-born.

Birthplaces	*Number*	*Birthplaces*	*Number*
United States	56	England	2
Russia	21	Scotland	1
Italy	6	Ireland	1
Poland	6	Lithuania	1
Canada	5	West Indies	1
			100

Only 22 of the 56 native-born patients came of American parentage; so only one-fifth of our patients are of American stock. (This figure does not include four negroes born here of American negroes.)

There were 94 whites and 6 colored patients among our subjects.

Dates of Arrival in U. S. of the Foreign-Born Patients:

1890–1894	2	1910–1914	12
1895–1899	2	1915–1919	4
1900–1904	3	1920–1924	5
1905–1909	15	Unknown	1
			44

U. S. Citizenship:

By birth	56
By military service	1
Naturalization	24
Not citizens	14
Unknown	5
	100

Of the 14 who are not citizens, 11 are mothers.

At the time this study was made, the ages of the mothers ranged from 21 to 45 — the average being 33. The ages of the fathers ranged from 24–60, and the average age was 37 years.

Education:

The education of the parents is shown below.

	Fathers	*Mothers*	*Total*
None	1	2	3
Only religious training	1	3	4
1st–6th grades	6	8	14
Night school	7	1	8
7th–8th grades	10	15	25
1st–4th year high school	10	5	15
High school graduates	6	4	10
High school post-graduate course	3	8	11
College — 1st–4th year	3	2	5
Graduated college	1	2	3
College post-graduate with advanced degrees	2	0	2
	50	50	100

The following shows the comparison by percentages between the education of these patients' parents, the patients' siblings, and their own.

	Parents	*Siblings*	*Patients*
No formal education	54%	11%	6%
1st–6th grades	12%	23%	21%
7th–8th grades	17%	22%	25%
High school	9%	23%	27%
High school post-graduate courses or college	8%	21%	21%

The fact that almost a quarter of the patients were favorite children of their parents, as far as could be determined, might account for them being allowed to extend their school years beyond those of their siblings.

The reasons patients did not go farther in school were varied:

	Mothers	*Fathers*
Finished (high school or college)	9	7
Could not afford	1	3
Had to work	11	8
To work	13	16
No school interest	4	2
Didn't like school	5	5
Failed	0	1
Expelled	0	3
Illness	2	2

Joined army and went to sea	0	2
Married	1	0
No schooling	2	1
Unknown	2	0
	50	50

Religion:

Patients have changed their religious beliefs somewhat from those of their parents:

	Formerly		*Now*	
	Mothers	*Fathers*	*Mothers*	*Fathers*
Protestant	17	19	17	19
Roman Catholic	16	14	15	14
Orthodox Jew	17	17	12	9
Reformed Jew	–	–	5	3
Atheist	–	–	1	5
	50	50	50	50

One Protestant has become a Roman Catholic and one Roman Catholic has become a Protestant and another an Orthodox Jew. It is interesting to note that the six who are atheists are all Russian Jew immigrants.

	Mothers	*Fathers*
Very devout	9	7
Religious interest	22	11
Disinterest	17	15
Atheistic	1	5
Unknown	1	12
	50	50

Mothers are much more interested in religion than fathers.

	Mothers	*Fathers*
Protestant		
Regular church attendance	4	5
Occasional church attendance	4	1
Rare church attendance	6	2
Never because of work or illness	0	3
Never	3	8
	17	19
Jewish		
Synagogue attendance	10	9
(Attendance at Christian Churches)	–	3
Never	8	8
	18	17
Roman Catholic		
Regular church attendance	12	8
Occasional church attendance	1	0
Rare church attendance	2	0
Never	0	4
(Dead and unknown)	0	2
	50	50

Fourteen mothers and 8 fathers pray regularly, and 3 mothers pray only under stress. Thirteen mothers and 21 fathers never pray. (For diagram showing how parents are divided by couples according to their religious beliefs, see page .)

Health:

The following shows the health of the patients in childhood, their health in the interim between adolescence and the present, and also at the present time. (The more usual childhood diseases have been omitted from this list.)

	Childhood		From Childhood to now		Present	
	Mother	*Father*	*Mother*	*Father*	*Mother*	*Father*
Frail or anemic	5	3	3	–	3	–
Typhoid fever	2	2	1	4	–	–
Convulsions	2	1	–	–	–	–
Spinal curvature	3	–	–	1	–	–
Pneumonia	2	1	2	3	–	–
Heart trouble	1	1	3	1	1	–
Encephalitis(?)	1	1	–	–	–	–
St. Vitus Dance	1	–	–	–	–	–
Poisoning or infection	1	–	4	5	–	–
Harelip	1	–	–	–	–	–
Small pox	1	1	–	–	–	–
Tuberculosis	–	1	1	1	–	1?
Nervous breakdown	–	–	7	5	–	–
Mental disturbance	–	–	2	1	1	–
Temporary paralysis	–	–	1	–	–	–
Facial paralysis	–	–	1	–	1	–
Tremor of hands and tongue	–	–	–	–	2	1
Low blood pressure	–	–	–	1	2	–
High blood pressure	–	–	3	–	6	–
Spots before eyes	–	–	3	–	2	1
Dizzy spells	–	–	6	1	5	1
Backaches	–	–	6	1	7	3
Extreme fatigue	–	–	1	1	11	4
Hot flashes	–	–	3	–	5	–
Several miscarriages	–	–	3	–	–	–
Menstrual trouble	–	–	8	–	5	–
Childbirth hemorrhages	–	–	2	–	–	–
Venereal diseases	–	–	4	4	1?	?
Diabetes	–	–	–	–	–	1
Stomach trouble	–	–	1	2	2	4
Kidney trouble	–	–	4	–	4	–
Gall bladder trouble	–	–	4	–	1	–
Cancer or tumor	–	–	4	–	3	–
Hernia	–	–	–	2	–	1
Phlebitis	–	–	5	1	5	–
Arthritis	–	–	2	2	4	1
Obesity	–	–	1	–	5	1
Multiple sclerosis	–	–	–	2	–	2
Neuralgia	–	–	2	–	2	1
Glandular disorder	–	–	3	–	2	–
Sinus trouble	–	–	1	–	3	2
Asthma	–	–	3	–	2	–
Ptosis of intestines	–	–	–	1	–	–
Many minor complaints	–	–	3	–	3	–
Total	20	11	97	39	88	24

The health of the patients when they were children was for the most part good. The above illnesses, totaling 20 and 11, are other than the usual childhood diseases, which 16 mothers and 10 fathers had. Only one mother has been anemic all her life. One father had typhoid fever twice, and a mother had pneumonia twice. All the cases of heart trouble in childhood cleared up. The father who had encephalitis still shows signs of overactivity and overtalkativeness. An operation was performed on the patient with the harelip and the scar is still evident. The father who had tuberculosis in childhood recovered: so illness of this period seem to be relatively unimportant in the lives of these patients. Eighty-six parents consider that their childhood health was excellent.

Thirty-seven mothers and 20 fathers had 97 and 39 illnesses respectively through adolescence to the present time, or an average of 2.6 illnesses for the mothers and 1.9 for the fathers. One father died of tuberculosis and pneumonia some years after he had contracted both syphilis and gonorrhea. As for venereal diseases, we know that 3 pairs of parents had either one or both, and 1 mother and 1 father had gonorrhea. We are not too concerned with some of the other complaints of this period as they are so closely allied with neurotic complaints. Eighty-eight parents believe that their physical condition at this time was very good.

The following shows the number of operations which our patients have had (not including the tonsillectomies.)

	Mother	*Father*
Cholecystectomy	4	–
Hysterectomy	4	–
Ovarian resection	2	–
Sterilization	1	–
Caesarean sections	5	–
Cancer of the breast	1	–
Fibroid tumor	2	–
Appendectomies	7	5
Hernia	–	4
Varicocele	–	1
Harelip	1	–
Lung operation (pleurisy)	–	2
Nasal operations	1	6
Intestinal obstruction	–	1
Strabismus	–	1
Infection	1	5
Bone in leg	–	1
	29	26

As for the health of these hundred patients at the present time, we find they have the following chronic diseases:

	Mothers	*Fathers*
Anemia	3	–
Tacchycardia	1	–
Stomach trouble	1	1
Chronic hernia	–	2
Cancer	1(?)	–
Tumor	2	–
Menopause — hot flashes	3	–
Menstrual difficulty	1	–
Obesity	4	–
High blood pressure	2	–
Chronic nephritis	2	–
Phlebitis	3	1
Arthritis	2	1
Neuralgia	2	–
Ulnar nerve palsy	–	1
Multiple sclerosis	–	2
Chronic sinusitis	1	1
Asthma	2	–
Venereal diseases	1	–

There have been 8 cases of venereal diseases and it is unknown whether 3 cases have cleared up. One mother is still being treated for both gonorrhea and syphilis; 2 mothers have had hysterectomies because of gonorrheal infection, 1 father recovered from gonorrhea, and 1 father who had both this and syphilis is now dead.

One mother suffering from a mental disturbance has been a patient in a state hospital and is now on the road to recovery. However, the diagnosis on this patient shows that this disturbance may recur.

In spite of the illnesses, both chronic and acute, of the patients, 85 consider themselves in good health.

Marital History:

Six parents, 5 fathers and 1 mother, had previous marital experience before the present marriage. Five marriages ended in divorce, the grounds being:

Infidelity of other party (not our patient)	2
Desertion of other party	1
Cruelty on part of patient	1
Unknown grounds	1
Sixth parent a widower	–

One pair of our patients never married, and later the father claimed he had a wife in the old country. (Mother did not know this, and later the father died.) One negro mother said she was happily married and had 2 children whom we consider to be illegitimate as she could not give any account of her married life and divorce. One mother had an illegitimate child before her present marriage and another mother had one between the time of her divorce and her present marriage. One pair of parents (the father being one of those divorced) lived together several years and were later married. We believe one couple to have been married twice (although they deny it) as two marriage records were found in which the names, birthplaces etc., seemed more than coincident. One mother admitted she had had sex experience previous to her marriage but she did not marry the man.

Present Marriage:

As one would expect, we find that mothers marry at an earlier age than fathers. (One couple never married and is not included in this chart.)

Age at Marriage	*Number of Mothers*	*Age at Marriage*	*Number of Fathers*
		48–51	1
		44–47	0
		40–43	0
36–39	2	36–39	3
32–35	1	32–35	6
28–31	2	28–31	7
24–27	15	24–27	18
20–23	15	20–23	12
16–19	14	16–19	2
	49		49

The average marriage age for mothers was 23.3 years and for fathers 27.4 years. The average duration of the marriage period was 10 years previous to the time of this study.

Six mothers were older at the time of marriage than the fathers as shown in the following chart:

Mother's Age	*Father's Age*	*Difference*
26	22	4
21	20	1
34	32	2
39	24	15
26	25	1
23	20	3
25	24	1

There was a considerable difference in the marriage ages in eight cases:

Mother's Age	*Father's Age*	*Difference*
26	36	10
16	28	12
26	22	4–
24	51	27
17	27	10
19	34	15
26	38	12
39	24	15–

One marriage was arranged in a business deal and 3 arranged by the mothers' parents because of economic pressure. Four marriages took place when mothers were already pregnant. (One of these ended in divorce when one mother sued her husband on the grounds of cruelty.) One father said he married only because he wanted children and one couple never married at all. One mother married to get away from a poor home and now finds herself facing extreme poverty.

At present only half of the parents are happy in their sex life. The other half of the mothers and a fourth of the fathers are sexually maladjusted.

	Mothers	*Fathers*
Sex life satisfactory	23	26
Sex life never satisfactory . . .	24	16
Sex life unknown	3	8
	50	50

The frequency of intercourse was about average. There were one or two cases which showed an abstinence from intercourse for three or four months and one couple when interviewed had had no intercourse for ten months because of incompatibility and fear of conception.

The following shows that over half of these parents are happily married:

	Mothers	*Fathers*
Very happily married	9	9
As happily married "as the average" .	17	22
Not happy	19	11
Divorced (unhappy).	1	1
Not married (unhappy)	1	1
Unknown	3	6
	50	50

Divided into couples, we find the following combinations of marital adjustment:

Mothers	*Fathers*	*Number of Couples*
Very happy	Very happy	9
Happy	Happy	14
Not happy	Not happy	11
Happy	Not happy	1
Happy	Unknown	2
Not happy	Happy	7
Not happy	Unknown	3
Unknown	Happy	1
Unknown	Not happy	1
Unknown	Unknown	1
		50

Points of Friction in the Home:

Unfaithfulness was found in ten fathers, while two mothers admit infidelity. Five fathers accuse their wives of infidelity (which the mothers deny.) In another instance, it is doubtful whether or not the mother is immoral. Four mothers admit they love men other than their husbands and 2 fathers love other women. It is not known whether 2 other fathers love women outside their homes or not, but there is reason to believe this. One father wants mother to earn money as a prostitute and the same father and another attempt intercourse before the children.

Desertion was found on the part of 4 fathers, 2 of whom returned home. Five fathers admit they are considering deserting their families at the present time. Eleven mothers are thinking of leaving their husbands. One mother was already divorced when this study was begun and another mother recently began divorce proceedings. Five fathers have frequently offered their wives divorces.

Extreme jealousy in 20 of the 50 homes (on the parts of 17 fathers and 9 mothers), causes unhappiness among these couples.

Twenty-five fathers (including the dead and divorced fathers) and 21 mothers have very bad tempers. Fifteen mothers admit they "nag" at their husbands perhaps too much of the time. The surprisingly large number of 12 couples go for periods of several days' duration without speaking to each other.

Seven fathers frequently abuse their wives (and the 2 fathers who are divorced and dead were also abusive.) Two mothers admit they abuse their husbands by hitting them and throwing things at them.

Six mothers who had lived very comfortably before marriage, find it hard to adjust themselves to much less in married life. Four fathers are extravagant and spend their money selfishly on themselves when the family itself needs money. Financial worries appear in 30 homes out of the 50 and in 13 instances they cause a considerable amount of friction.

Eighteen couples admit they have no interests in common. Fourteen mothers have no recreation and seldom leave the house except to go walking with the children.

Although 13 mothers and 6 fathers have physical illnesses, friction because of ill health appears in only 6 homes. The nervous condition, however, of 9 mothers and 6 fathers causes a considerable amount of disharmony in 13 homes.

The mothers are apparently much more domineering than the fathers:

Mothers "boss" in the home	16
Fathers "boss" in the home	8
Fathers "boss" when drunk or angry (otherwise mothers)	6
Neither parent more domineering	9
Maternal mother-in-law the "boss"	8
Paternal mother-in-law the "boss"	1
Unknown	2
	50

Of the 9 homes dominated by the mothers-in-law, friction appears in 6 for this very reason. Friction is caused by a compound family life in 11 homes.

In the following chart, we find many intermarriages among the 50 couples.

Patient's Nativity		*Nationality of*		*Number of*
Mother	*Father*	*Mother's Parents*	*Father's Parents*	*Couples*
America	America	American	American	9
Russia	Russia	Russian Jew	Russian Jew	7
Italy	Italy	Italian	Italian	3
‡Russia	Poland	Russian Jew	Polish Jew	2
Poland	Poland	Polish Jew	Polish Jew	2
America	Russia	Russian Jew	Russian Jew	2
America	America	Russian Jew	Russian Jew	1
America	America	Italian	Italian	2
‡America	America	Italian	English	1
America	America	German	Irish	2
‡America	America	American	English	2
America	America	American	Am. French	1
America	America	American	German	1
America	America	Irish	English	1
America	America	Irish	Irish	1
*America	America	Scotch	Russian Jew	1
America	America	Polish Jew	Austr. Hung. Jew	1
Am. Negro	Am. Negro	Am. Negro and Am. White	Am. Negro and Am. White	1
Am. Negro	W.I. Negro	Am. Negro	Br.W.I. Negro	1
America	Canada	Irish	English	1
‡America	Lithuania	Polish	Lithuanian	1
America	Scotland	German	Scotch	1
*Ireland	Am. Negro	Ireland	Am. Negro	1
England	America	English	Norwegian	1
England	Russia	Russian Jew	Russian Jew	1
*Russia	Russia	Russian Jew	Russian	1
Canada	Canada	Fr. Canadian	Fr. Canadian	1
*Canada	Canada	Fr. Canadian	? Negro-Indian	1
				50

*Signifies racial differences.
Signifies nationality differences which cause friction in the home.

There are, then, racial differences in four couples. In 2, where white women married negroes, there is considerable unhappiness. These 2 families are ostracized by their neighbors and the parents are very sensitive of their children's dark complexions. The other 2 instances were intermarriages between Jews and Gentiles. In 1 of them, the mother became converted from Roman Catholicism to her husband's religion and is apparently adjusting well among his people. The second couple is not interested in religious matters and if it were not for the complicated compound family life, there would be no friction on this point.

There are 11 cases of differences in nationality, but of these, only 4 cause disagreeable relationships. Interfering families and language differences in 3 cases causes some friction among these 4 couples.

The following number of languages are spoken in the different homes.

Only English	29	Italian and English	2
Yiddish and English	8	Yiddish, Russian and English	1
English and Yiddish	6	English, Lithuanian, and Polish	1
English and Italian	2	English and French	1
			50

(The language most frequently spoken in the home is the one mentioned first.) Almost half of the parents speak a language other than English.

There are 6 homes in which a language difference of the parents causes some friction. Three couples speak a different dialect of their language which causes so much irritation that they have agreed always to speak in English to each other.

The following shows how the parents are divided by couples according to their religious beliefs.

Protestant couples		14
(Friction over denomination	2	
(Husband a minister *vs.* wife's wishes	1	
Mother previously Roman Catholic now a Protestant married to a Protestant		1
Roman Catholic couples		12
Protestant mothers and Roman Catholic fathers		2
(No friction	1	
(Divorced	1	
Roman Catholic mothers and Protestant fathers		3
(Mothers very unhappy because of this, but no real friction	2	
(No friction)	1	
Orthodox Jewish pairs		10
Orthodox Jew and Reformed Jew		1
Orthodox Jew and Jew Atheist		3
(Friction)	2	
Reformed Jew and Jew Atheist		2
(Friction)	1	
Reformed Jew and Greek Catholic		1
(Friction due to relatives)	1	
Orthodox Jew and Roman Catholic mother converted to Orthodox Jew		1
		50

Nine instances out of the total of 14 cases of differences in religion cause, if not open friction in every case, at least a great deal of unhappiness. In 5 other cases, pairs not of the same religious beliefs are adjusting to the situation without much concern. However, in 3 cases where both parents are Protestants there is friction.

Asocial Behavior of Patients:

Eight fathers are alcoholic at the present time, with a question of two others being alcoholic also. A great deal of dissension arises in four of these homes because of the fathers' drunkenness. (Three others were formerly heavy drinkers but two recovered from this habit and the other has died.) Six fathers have been arrested 21 times for drunkenness and 3 others five times for violating the liquor laws.

Twenty-two fathers, (nearly one-half) have court records. Of these, 6 records are for violation of the automobile laws only (on nine counts.) Six others were arrested 8 times for this same violation, but they had other charges against them as well.

There have been 6 instances of larceny, involving 4 fathers, of whom 3 were juveniles. (Two of these juveniles have other arrest records since that time.)

Three fathers have been arrested for non-support and 4 have been arrested 5 times for assault and battery. (In 1 case, patient was in Juvenile Court for assault on his teacher and in another case, it was for assault on the patient's wife.) There has been 1 arrest for neglect of family, (the case of the unmarried mother and father,) and one arrest for desertion. (This father who deserted served 6 months' time.) Three fathers were arrested 4 times for gambling, 1 for promoting a lottery, 1 for affray, 1 for perjury, 1 for forgery and uttering, (judged not guilty) and 2 for loitering.

Eliminating the 6 who have court records for violating the automobile laws only, and also the 1 who has had no record since he was in Juvenile Court, we find 15 fathers who have been arrested 60 times. In other words, the patients who have court records for more serious infractions of the law have an average of 4 arrests per person.

As far as we know, none of the mothers has a court record.

Children:

One mother who was previously divorced allowed the child of this marriage to be adopted, and this same mother has placed out her illegitimate child. One mother has hers in her home at the present time and another has placed her 2 illegitimate children in her parents' home. One father who was widowed has 2 children of this earlier marriage in his home and 2 fathers who were divorced do not know of their childrens whereabouts. Another child of a divorced father is a patient at the Tewksbury State Infirmary where she is being treated for a Neisser infection. The father who never married has died and the mother has placed this illegitimate child in a home.

Now, regarding the present marriage, these 50 mothers have had 170 pregnancies by the 50 fathers. (This number, therefore, does not include children by a previous union. This makes an average of 3.4 pregnancies per couple.

Number of Pregnancies	*Frequency*	*Total Number Pregnancies*
17	1	17
16	0	0
15	1	15
14	0	0
13	0	0
12	0	0
11	0	0
10	0	0
9	0	0
8	1	8
7	0	0
6	1	6
5	5	25
4	5	20
3	14	42
2	15	30
1	7	7
	50	170

There have been 29 miscarriages, 10 stillbirths, and 7 children who have died so that of the 170 pregnancies, 124 children are still living. This makes an average of 2.8 children per family. That this percentage of children per family is so much smaller than that of these parents' families (viz 6.5) might have been expected in that the size of the family at large has been decreasing and also these parents are still comparatively young and will very likely have more children.

The causes of the deaths of the seven children were pneumonia 2, meningitis 1, nephritis 1, tumor 1, starvation 1, and summer complaint 1.

The following chart shows the number of the living children.

Number Children in family	*Frequency*	*Total Number Living Children*
11	1	11
10	0	0
9	0	0
8	0	0
7	0	0
6	0	0
5	2	10
4	7	28
3	9	27
2	17	34
1	14	14
	50	124

Here we see that 14 out of 50 parents or 28 percent have only 1 child as compared to these parents' families where 3 out of 100 families or 3 per cent had an only child. It has been pointed out that some of these parents will probably have other children but it is doubtful if the rate of the only child will be lowered very much.

The health of the children is for the most part very good. In 2 families, the children are underweight and rundown. In 2 others, the children are undernourished because of poverty and in a third, 10 children are not only undernourished, but 9 have all been treated for hilum tuberculosis. In 1 case an only child is being treated for a Neisser infection, of unknown source.

About one-half of the parents wanted all their children.

	Mothers	*Fathers*
All children wanted	23	28
None wanted	6	1
Not all wanted	9	5
Doubtful if all wanted	4	1
Want no more	3	6
Want more	0	4
Unknown	5	5
	50	50

Favoritism:

One father dislikes all children and believes his to have held him back as far as success in business is concerned. (He has boarded two daughters at a convent for five years.) Four fathers dislike a certain child in their families and 3 mothers dislike the same child. One mother dislikes all children and another dislikes her step-children. Four fathers think that a son in their family is "thoroughly bad" and 1 father does not try to hide the fact that he thinks his son is "dumb." One couple believe a daughter to be immoral.

About three-quarters of the parents show favoritism among their children.:

Favoritism shown by:	*Mothers*	*Fathers*
Only one child	14	13
Youngest	10	13
Oldest	1	1
Oldest daughter who died	1	1
Only boy	1	1
Only girl	1	0
Other child	1	1
No favoritism	19	15
Unknown	2	3
Father dead or divorced	0	2
	50	50

Note that this does not include relatives or friends close to the family who show other favoritism.

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PERSONALITY STUDY OF 100 PARENTS OF HABIT CLINIC CHILDREN*

By Arthur Berk, M.D.; Leonore Lane, B.A.; Myrtle C. Tandy, B.A.

Curiosity as to the types of the parents of problem children prompted this study. It was undertaken with no preconceived notions of the results which might be obtained. (As far as we knew, no work along this line had been done.) Up to now, the emphasis has been placed on the child, and he himself has been treated for his problems, while the parents have been educated in child management. It was asked, "Do the parents themselves, for the most part, present problems? Do they need treatment?" For instance, it is well known that a mother's over-solicitude may account for a child's problems, but it is important to account for this attitude on the part of the mother. Of course, a habit clinic, in dealing with the child's parents, makes an estimate of their difficulties, but is naturally handicapped in treating them by nature of the organization per se. Then, too, these parents are not so likely to discuss themselves and each other as freely as they might otherwise do if the conversation were centered on them, instead of their child. Very often, parents resent the implication, given by leading questions regarding personal matters that there can be any connection between their problems and the child's behavior. One advantage in the contacts which we had with the subjects was that the parent himself was our main concern and very likely this is why he reacted with interest and co-operation.

This research study was made by the Massachusetts Division of Mental Hygiene, which operates eleven habit clinics in the state. A child between the ages of 2 and 9 years, who presents bad habits and behavior problems, may attend one of these clinics with his parents or relatives for a period of time, during which he is observed and treated.

An attempt was made to keep the cases included in this study as unselected as possible. Those referred to us were not consecutive cases from the habit clinic files, but were chosen at random. Both closed and open cases were included. Cases of habit clinic patients were suggested in which the habit clinic psychiatrist and social worker believed the parents would co-operate in the research. By "co-operate" is meant that they would be willing to give time to an interview with the social worker, as well as make a visit to the psychiatrist for this study. Therefore, we are dealing, first of all, with people whom others have considered "co-operative."

The habit clinics are located in Northampton, Holyoke, North Reading, Reading, Lawrence, Beverly, Quincy, Norwood, Roxbury, and in the West End and South End of Boston. The first six were considered too far away to offer subjects who would be willing to make the trip to the psychiatrist. Most of them, therefore, come from around Boston, although a large number live in the outlying section of the city. From the West End Clinic, in Boston, 17 pairs of parents were studied; from the South End Clinic 17; from Roxbury 9; from Quincy 2, and from Norwood 5. The first two of these clinics draw patients from all the environs of the city, but for the most part from urban surroundings. The Roxbury clinic draws from the outlying sections of the city and therefore from less urban surroundings. The Quincy and Norwood Habit Clinics attract patients from rural sections, as well as from their own communities. So the districts from which the subjects came were to this extent selected.

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*This study represents one of the research problems carried out by the Division of Mental Hygiene of the Massachusetts Department of Mental Diseases. We are indebted to the Boston Dispensary for the opportunity of studying the cases in the Nerve Clinic, and also for the co-operation received from the clincial staff ot the Boston Dispensary.

Because of the necessity of taking subjects from nearby clinics, the proportion of the nationalities of the group is affected. Two of the clinics are situated in sections of Boston which are largely Jewish (West End and Roxbury.) The South End Clinic serves a group in which no particular nationality would preponderate. The Quincy and Norwood clinics treat patients who are mostly of American parentage, or at least of more Americanized parents.

Again, as these clinics are managed by a State Department, the service is for the most part free. Therefore, most of the families who take advantage of what the clinic has to offer are from the middle and lower economic level. Those who can afford to pay for the services are sometimes referred to a private psychiatrist. Some of the patients are from homes that are comfortable — which means that all the physical necessities are provided, as well as a few luxuries. The three Boston clinics from which we draw much of our material are located in poorer sections of the city and so the patients from these clinics are of the poorer class. Therefore, the economic level of our subjects is perforce limited at the very start.

Methods Used in This Research Study:

After a case was referred for study, the social worker visited in the home. Here the mother felt more at ease than she might otherwise and it gave the worker a chance to judge the parents' surroundings. The social worker, on her call to the home, did not know for what problems the child had been referred to habit clinic for treatment, nor did she know the impression these parents had made on the habit clinic psychiatrist or the habit clinic social worker. Each case was, then, as if new and no prejudices or impressions had been formed.

On the first visit to the home, the purpose of the research was explained or not, depending on the social worker's judgment. The social history of the mother was taken and in a few cases where the father was in the home because of illness or unemployment, his was also taken. The form of this history was made by the social work for this study and covered the patient's early family life, personal history, and personality traits. Wherever possible, both parents were seen together at some time or other, so that their reactions to each other might be observed. After the history taking, an appointment was made for them to see the psychiatrist in Boston. The psychiatrist's interview with the mother took place, generally, in in the Nerve Clinic at the Boston Dispensary, in the morning. The parents who worked during the day were interviewed in the psychiatrist's private office in the evening.

Before the patients saw the doctor, the social worker relayed her information to him and he continued on from these facts, going more into detail regarding the patient's mental content. Organic findings were ruled out by a neurological examination and several patients were referred to clinics and hospitals for alleviation and diagnosis of their physical complaints. The length of the interview depended to a great extent in the co-operation and interest of the patient. As far as was possible, patients needing psychiatric treatment were given more time and in some cases a second interview was granted for continued psycho-therapy. A large number of cases desired to return for further discussion of their problems. It is regrettable that once the contact was made, time could not be given for more treatment by the psychiatrist, but this was impossible and the alternative was to explain where the patient could receive help elsewhere.

Besides the history and the psychiatrist's impression of the patient, we have used hospital records and social agency reports as sources of information. The psychiatrist did not make medical examinations of these patients and when they had some definite physical complaints or when their physical condition seemed to color their personality, they were referred elsewhere for an examination. Previous illnesses had often played an important part in their lives and in some cases had affected the personality, and so the medical reports have been obtained as an essential part of this study. We do not lay too much stress on the records of social agencies inasmuch as many of the social workers of these other agencies were probably not psychiatrically trained and the impression the parents made on them was possibly colored by prejudices already aroused previous to their contact with the parents. However, their observations in the home are valuable to this study.

It might be well to say something about the attitudes of these parents to the study. All of them did not receive a complete explanation of why they were have-who is divorced, who was a painter. His present occupation is unknown.)

At the present time we find that the economic depression has affected our parents' incomes.

Full-time work	22
Part-time work	10
Unemployed	15
Too ill to work	1
Unknown 1 and dead 1	2
	50

Here we see that 20 per cent of our fathers are working only part-time, which means in many cases only occasionally and 30 percent are actually unemployed. Forty-four per cent are still carrying full-time work.

With 15 fathers unemployed and 10 others' salaries unknown, we find this range of weekly salaries. (These 25 fathers constitute three-quarters of the number of fathers who are earning and therefore are probably representative in their earnings.)

Weekly Salary	*Frequency*	*Weekly Salary*	*Frequency*
$82–$86	2	$42–$46	0
77– 81	0	37– 41	1
72– 76	0	32– 36	2
67– 71	0	27– 31	6
62– 66	0	22– 26	5
57– 61	1	17– 21	4
52– 56	0	12– 16	1
47– 51	3		
			25

These fathers make an average of $35 a week, although the median is about $49. Twenty per cent of the fathers whose salaries we know, earn less than $22 a week, 40 per cent earn less than $27 and 72 per cent (nearly three-quarters) make less than $37 a week.

	Full-Time Work	*Part-Time Work*	*Un-Employed*	*Total*
Comfortable income	9	–	–	9
Fair income	4	1	–	5
Marginal income	7	2	–	9
Very poor income	2	6	–	8
Dependent on relatives	–	1	7	8
Dependent on social agencies	–	2	6	8
Dependent on sick insurance	–	–	1	1
Living on savings	–	–	2	2
	22	12	16	50

(The divorced mother is supported in the main by a social agency and the mother who never married is dependent financially on her fiancé. Both are included in the unemployed group.)

Naturally, the figures of the incomes of these families are not constant, as, for instance, a temporary job would change these figures. Of the fathers who are earning salaries, 19 are under the strain of financial worry.

In 25 cases it is found that a father's average salary is $35 a week. Totalling all the salaries of these same 25 men with those of their working wives, and also the rent paid by their tenants, the average income per family is $38. As there are 120 people dependent on these incomes, the average income per person each week in these twenty-five families is $7.92.

Five fathers who are working dislike their work very much and are looking for an opportunity to change jobs.

NUMBER OF CASES		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
Friction in Home	*Total*																																																		
Racial difference	4	..	..	..	..	..	..													FD	✓	✓																								✓					✓
Nationality differences	4			✓					✓									✓			✓																														
Language differences	6		✓	✓					✓									✓				✓							✓																						
Religious differences	9						✓							✓							✓														✓	✓						✓				✓			✓	✓	
Marked age differences	8	F				F		M		F																	F		F											F						M					
Unemployment	Others 2 16		X ✓	X ✓		X ✓	+ ✓		+ ✓	X ✓	+ ✓	+ ✓				X ✓	✓			X		X ✓			✓				X ✓			X	+ ✓		X ✓							X ✓									
Part-time work	10												✓	+ ✓				✓	✓	X	✓					✓						X				✓	✓				✓			✓			✓	✓			
Mother works out of home	5																			✓											✓	✓					✓				✓	✓					✓		✓		
Financial worries	30	✓	✓			✓	✓		✓	✓	✓	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓		✓	✓	✓		✓			✓	✓	✓	✓																
Poor home conditions	9									✓	✓	✓		✓		✓		✓									✓		✓		✓						✓														
Poor neighborhood conditions	22		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓		✓		✓				✓	✓	✓		✓		✓		✓		✓						✓							✓		
Compound family friction	11		✓	✓						✓					✓		✓				✓									✓	✓*						✓					✓	✓						✓		✓
Mother "nags"	15	✓		✓								✓	✓	✓			✓				✓					✓			✓						✓			✓			✓					✓	✓			✓	✓
Mother has no recreation	14		✓				✓		✓			✓		✓			✓				✓					✓	✓		✓								✓	✓				✓			✓	✓					✓
No common interests	18			✓			✓		✓			✓		✓				✓			✓					✓			✓		✓				✓																
Bad tempers	21M 25F		MF	MF		F	F		F	F	M	F	M	MF			M	F		MF	MF		MF	M	M	F	M	F	MF	MF	MF	MF	MF		M		MF MF	F				F	F	M	F			F			M
Abuse of spouse	2M 9F								F	F																											✓	✓											✓		
Periods of not speaking	12						✓		✓			✓		✓						F						F		F	F			F	F		M			F													
Considering desertion	7						F✓ Des							F				✓		F Des.	✓					✓					✓	F Des.			✓		F✓ Des														
Considering divorce	5F, 1 Div 11M						M		M			MF		F									F														MF	M				F				✓					
Forced marriage	4																																				✓				✓										
Marriage arranged	4						✓		✓												M					M		MF	M		M	Div.			M																
Illegitimate child	1F 4M									O M			M														✓					✓		✓																	
Sexually disatisfied	24M 16F	M	MF				F	MF	MF					MF	MF					MF						M											MF	MF		M	MF	M				M	MF		M		M
Infidelity	8?M 10F						F		? M	? M		? M		? MF		MF	M			MF	MF				M	MF				M	MF	MF					? MF	F										F			
Loves other than spouse	4M 4F													? F		M				MF	F					F					F	? MF					MF										M				
Venereal disease	4M (2 dau.) 5F													MF	X					M			X								? F						MF	MF													
Extreme jealousy	9M 17F								F	MF		F		MF				F		MF MF			MF					F	F	M	M	F				F	MF	MF				M	F		F					F	
Feels superior to spouse	6M 12F						F		M		F			F				F			F				M			MF			F		F		M	F	F	F			M					M		F			F
Boss in home	16M (Others 9) 13F	M	O	O		O	F		□ F	F	F	M	M	M		F		F		F	F		M		M	□ F	M	F	M		□	□ F			M	O	□ F			M	O	O	M	M	M	M	M	M	O		F
Poor health	13M 6F	M	F				M	M	M	MF		M		M		M			M	F	F					M	M								MF					F						M					
Unstable biological stock Mentally and physical	2M 22F	MF	MF	M						M		F		M	MF	MF		MF	M		MF		M	M	M	MF		MF	M	M	MF	MF	F	MF	M			MF	MF	MF			F	MF	F		F	F	MF		
Alcoholism now? Formerly	2F 3F 8F		F	F			+		F			F	? F							+						F			F	F	F				+										? F						
Court record	16F		xab gAF	xgd F	A ✓		non-s dF		a&b dF		L F	dn F			A ✓					non-s F		A&F F			gA ✓	a&b dF					Ad F	x non F	A ✓		x juv F		A l ✓	A l ✓							A ✓	A ✓		F	A ✓		
Disagree re-discipline	23		✓			✓			✓	✓				✓	✓		✓	✓				✓	✓		✓	✓		✓	✓	✓	✓				✓		✓	✓		✓			✓						✓	✓	
A child disliked	11		✓						✓	✓	✓	✓		✓			✓	✓			✓					✓				✓																					
All children disliked	2																				✓																			✓											
Favoritism shown	15M 16F	F					MF		F	MF	MF	M.F				F	MF	M	MF		F					F		F		M		M	M	MF	MF			F		M	MF					M					
Children quarrel	22				✓	✓				✓	✓	✓		✓		✓	✓				✓			✓		✓			✓	✓		✓	✓	✓					✓	✓	✓		✓	✓	✓						
Total	615	7	16	12	1	8	20	5	24	20	12	21	8	28	6	11	11	16	5	22	22	8	9	2	8	22	9	10	18	10	20	20	9	5	18	6	28	17	1	8	11	11	6	4	6	11	7	6	8	5	7
Personality Diagnosis◈		nN	HD	n	NN		N	Nd	S	m	Sm	SPa	D	P	dN	mdN	nD	n	dd	N	d	mS	m	M	SD	n	H	NN	D	DdN	dd	P	S	Nd	nP	NP	HD	SP	NN	PH	nS	SP	MN	N	N	DD	scN	N	n	H	n

Each case number includes both mother and father of habit clinic patients

M here-mother older than father
F here-father older than mother
X—dependent on relatives, 8
+—dependent on City Aid or social agencies, 8
*—depend. on sick insurance, 1

F—father deserted and is now back in the home Des.

No. 36 has started divorce pro.

O—Illegitimate child in the home.

X A daughter in these 2 families has a Nesiser infection. 1 by prev. marriage out of home. Fathers 35 and 37, Mothers 9 and 29 jealous of children.

O-maternal grandmother (Mo's mother. □Paternal grandmother (fa's mother. □ fa. boss when drunk or angry.

+Formerly alcoholic.

A- auto laws viol; L-Lottery; l-liquor; F-forgery; x-larceny; ab-assault and battery; g-gambling; d-drunk; D-desertion; n-neglect; non-nonsupport.

*Father dead. □Divorced family. S-situational; sc-schizoid; p-psychopathic; Pa-paranoid; D-dull mentally; De-depression; H-Hysteria; m-manic personality; M-manic-depressive personality; md-manic-depressive psychoses; d-descriptive diagnosis; N-normal personality; n-neurasthenia;

Home Conditions:

These 50 families live in the following types of home:

One room	2	Half-house	8
Flat	28	House	9
Apartment	3		
			50

Seven couples own their own homes and 1 couple is buying theirs. Two of these families pay mortgages of $31 and $50 a month on their property. The minister's family lives in a parsonage and pays no rent. The other 41 couples pay on an average of $28 a month for their rent.

There are in all 245 rooms in these peoples' homes. As there are 226 people living in them, there is an average of about 1 room per person.

We find in only half the homes just immediate family members.

Relatives living in home	18
Frequent visitors	1
Boarding house	1
Illegitimate daughter	1
Maids	4
No outsiders	25
	50

In eleven of these homes, interfering relatives cause an unhappy atmosphere.

The actual home conditions are judged by the social worker. (Eight mothers are very poor housekeepers.)

Good	22	Poor	6
Fair	12	Very poor	3
Good, but overcrowded	7		
			50

The home surroundings and neighborhood do not correspond with the home conditions:

Excellent	9	Fair	13
Good	6	Poor	22
			50

The chart on the preceding page will show the points of friction and undesirable environmental factors in the fifty homes of these patients. The numbers at the top of the chart each signify a certain couple. The left side gives the different types of friction in the different homes and the frequency of their appearance and the right side explains the symbols used in the chart. The bottom row gives the total number of environmental problems in each home. It is interesting to see how the psychiatric diagnoses of the parents appear in the homes where there are the most problems and the most points of friction.

Not many couples can be compared by means of diagnostic combinations. However, the following chart gives the average number of environmental problems per home with certain diagnoses.

	Number of Instances	Average number of environmental problems per home.
Both couples with normal personalities	4	4.5
One with a situational neurosis and the other with a manic personality	2	10
One with a situational neurosis and the other with a psychopathic personality	2	14
One with hysteria and the other with a psychopathic personality		18
One with normal personality	13	8.8
One with a situational neurosis	9	13.4
One with a psychopathic personality	8	17
One dull mentally	5	12.2
One with neurasthenia	9	12.4
One with hysteria	5	13.2
One with a manic personality	4	12.2

It is noteworthy that the parents with normal personalities have a happier home-life and better surroundings than the others, and it is interesting to see that the 3 with the highest average number of environmental problems occur in the homes where 1 parent has been diagnosed a psychopathic personality. (The average number of these problems per 50 homes is 12.3)

PERSONALITY TRAITS OF THE PATIENT

The foregoing gives the patient's social background and history, which, as we have said, is a most important guide for classifying a personality. Now, some patients who were willing to tell in detail of events in their lives, were handicapped when it came to describing their own personality traits. Self-consciousness undoubtedly caused some hesitancy on their part in speaking of this. Some probably had never before thought analytically of themselves as personalities. Again, the social histories of the fathers were given by their wives and it is possible some of these were colored by prejudice. How representative the following picture is of these hundred patients rests with the patients themselves. In obtaining this part of the history, a general leading question was usually enough for the patient to begin to talk of his or her traits. As far as was possible, we tried to avoid asking the same questions of different patients and we tried to keep them talking spontaneously at this point. So the personality traits, which follow the childhood neurotic habits and behavior in this paper, are those which were the outstanding characteristics of the patients as given by themselves.

Childhood Neurotic Traits:

Probably the most unsatisfactory results were met in an attempt to get the childhood neurotic habits of the patients. Shame, perhaps, and a poor memory on the part of the patient, played a part here. In some cases, many questions regarding this part of their life were left out in the history, lest the contact with the patient be broken. As a detailed study of this period is not possible, we can give only a brief summary of it.

Handedness: Over half the mothers and fathers were righthanded. Three were lefthanded, 4 ambidextrous, and 5 were partially converted lefthanded.

Thumbsucking: Two mothers indulged in thumbsucking as children and 2 others were not broken of this before the ages of 12 and 18. One of these says she still has to restrain herself from going on with this habit. No father recognized or remembered this problem. One father admits he still sucks his lip almost constantly and 1 mother bites her lips.

Enuresis: Ten mothers and 4 fathers had nocturnal enuresis as children. Three mothers were not broken of this until the ages of nine, ten, and fourteen.

Stealing: Ten mothers and 11 fathers admit they stole considerably as children. Of the 11 fathers, 3 were in Juvenile Court for larceny. Another was arrested at the age of 17 for breaking, entering, and larceny. Two of the juvenile delinquents have other arrests since adulthood, (1 of them again for larceny.) Another father recently absconded with his partner's money but this was not made a legal case.

Masturbation: Seven fathers and 1 mother admit masturbation in their earlier years. One father masturbated until he was 26 . He had an extreme sense of guilt and tried to atone for this by tying himself in uncomfortable positions and by fasting for a week. He had long crying spells at this time. Two other fathers have a great sense of shame for their participation in masturbation which seems definitely to have affected their personality. One of these 2 fathers still continues the practice, although he has tried to stop it.

Night Terrors: Sixteen mothers and 8 fathers had night terrors as children and 1 mother and 2 fathers used to walk in their sleep. At the present time, 16 mothers and 9 fathers are frequently disturbed by night terrors. Twenty-six mothers and 15 fathers say they sleep very poorly at night, half of each number because of bad dreams. One mother is disturbed by insomnia.

Nailbiting: Seventeen mothers and 7 fathers bit their nails as children. Of this number, 12 mothers and 5 fathers still have this habit. In other words, 70 per cent of both these fathers and mothers have never broken themselves of nailbiting.

Food capriciousness: Fifteen mothers and 10 fathers had this problem as children. One father had neurotic vomiting during this period.

At the present time, we find 17 mothers who are capricious in their food habits. Five of them admit they have no appetite and "pick" at their food. One mother has occasional nausea and vomiting after meals. (One mother has neurotic crying spells every morning at the breakfast table.)

Twelve fathers are fussy about their food and two of these eat all their meals in restaurants. Another has severe attacks of indigestion if he eats a meal away from home. One father had frequent vomiting spells after meals.

Temper Tantrums: Seventeen mothers and 12 fathers had temper tantrums as children. One mother used to faint when she became angry. One father used to bang his head against the wall in tantrums as a child.

Twenty-one mothers and 23 fathers, (not including the dead and divorced fathers) have very bad tempers at the present time. (Four of the fathers are easy-going except when they have been drinking and as they drink frequently, they are included here.)

Fainting Spells: Seven mothers and 5 fathers had fainting spells as children, 8 because of fear, 3 because of illness and one because of temper.

At the present time, one of those previous mentioned and 4 others mothers and 3 of the fathers mentioned above, as well as another father, still have fainting attacks — 3 mothers because of fear, 2 fathers at sight of blood, and another if he goes to a dentist. Two mothers may faint if they are not feeling well and one father is likely to faint if he becomes excited.

Speech Defects: Seven mothers and 1 father stuttered as children. One mother attended a speech clinic as a child and was helped a great deal. Another mother, not included with the others above, at the age of 7 had hysterical aphonia following a fright and did not speak for several months.

At the present time, 4 of these same mothers and another who just recently developed a stutter, have an occasional defect in their speech. Not any one of them is outstanding in poor speech, however. Another mother, has always lisped very badly and it is difficult to understand what she says.

At the present time also, the same father mentioned above still stutters, and another father has recently begun to stutter. Two fathers have always lisped.

It is interesting to note that most of the patients who have speech defects are mostly of a nationality other than American. The 10 mothers are: Italians 4, Jews 4, Polish 1, and American 1. The three fathers who have always had a speech defect are Jews and the father who has recently developed a stutter is an American.

Other Childhood Neurotic Traits: Three fathers were leaders of gangs and were in all kinds of mischief. They were all, separately, in Juvenile Court for larceny. Another father was 17 when he was arrested on this same charge.

Three mothers and 8 fathers said they were bad behavior problems in school. One mother said she used to cheat a great deal in school as it was considered "smart" to do so. One father's teacher had no control over him, who, as a boy, once threatened her with a razor. One father was expelled from a private school because of some sex difficulties. Three other fathers said they were the original "bad boys" of their schools.

Two fathers used to truant from school and home and consequently both went only as far as the 5th grade. A mother used to run away from home as she was the only child and was very lonesome.

One mother had chorea three times as a child and 2 others had habit spasms. (At the present time, one father and one mother have facial tics.)

One mother said she used to sulk all the time as a child. Another used to cry a great deal and no one could stop her. One mother had an imaginary childhood friend with whom she led an exciting play life. One father was exceedingly irresponsible and would neither study nor work, up until the time of his marriage. One father became very serious-minded as a child because of his and his family's hardships, and another father was over-serious as a boy because of family responsibility.

Two mothers and one father had convulsions as children. (These were of unknown origin.)

One father chewed tobacco from the age of eleven on.

Present Personality Traits: The following show the personality traits of the patients at the present time.

	Mothers	*Fathers*
Like to be by themselves	15	15
Dislike being alone	11	17
Sociable and friendly	32	38
Do not go out of their way to be freindly	18	12
"Quiet type" of person	19	26
Talkative	31	24
Overtalkative	6	4
Shy, bashful	16	7
Reserved	11	15
Self-conscious	11	4
Hypersensitive	20	18
Sense of inferiority	7	9
Conceited, boastful	–	12
Dependent on the husband or wife	4	7
Dependent on their mothers	2	1
Introverted type	2	6
Extroverted type	7	5
Indulge in practical daydreams	13	4
Indulge in imaginative daydreams	13	5
Indulge in daydreams of unknown type	2	4
"Minds wander"	3	2
Periods of feeling blue	36	15
Crying spells	29	1
Real or imaginary worries	36	9
Financial worries	14	3
Marital worries	10	1
Worries about health	3	2
Worries about health of their children	7	1
Worries about everything	2	2
Happy-go-lucky	4	10
Easy-going	2	13
Irresponsible concerning family life	2	13
Hyper-irritable	35	18
Extreme jealousy of husband or wife	8	15
Jealous of step-children	1	–
Jealous of son's dependence on the mother	–	2
Always on the go and doing something	29	15
Tire very easily	12	5
Tired all the time and always dragged out	18	6
Unusual interest in physical illnesses with many complaints re: health	14	6
Suggestible	11	3
Severe or continuous headaches	13	2
Occasional headaches	16	11
Occasional dizzy spells	10	1
History of nervous breakdowns	7	5
Admissions to state hospitals	1	2

Regarding the daydreams mentioned above, we found two mothers and four fathers who refused to discuss the contents of their daydreams. Three mothers picture themselves being actresses and concert performers and one of these also identifies herself with characters in a book. One mother contemplates in retrospect her very pleasant childhood and her father's devotion to her. A father, although untrained, daydreams of becoming an author and a scientist.

The parents who complain of their "minds wandering" do not hear what is said to them during these periods and cannot tell later of what they have been thinking.

The crying spells of the mothers are brought on by domestic trouble, financial worries, by their feelings being easily hurt, illness, and by their children's illness and behavior. One father cries very easily about little things. (Fourteen mothers and one father cried in their interviews with the psychiatrist or the social worker.)

Concerning the worries, we find the fathers much less inclined to let things bother them than the mothers.

How many of the headaches and dizzy spells are due to physical disorders, we do not know. Two mothers who have severe headaches have high blood pressure and 2 others, whose headaches are continuous, suffer from sinus trouble. One mother probably has migraine. Two of the mothers who have dizzy spells are going through the menopause.

We do not know in what state one father had admissions to a state hospital and consequently we have no diagnosis of his condition. The other father's diagnosis was psychosis due to drugs and other exogenous toxins — paraldehyde. The mother's diagnosis was manic-depressive depressed psychosis.

Fears: This is a topic which many of the parents were somewhat ashamed to discuss. However, 26 mothers and 10 fathers admitted having fears, 11 and 22 respectively denied having any, and 13 and 18 cases are not known.

The following shows what arouses these fears. (That there are more fears than parents is explained by several patients having more than one fear. We have not attempted to separate the neurotic from the actual fears.)

Fears	*26 Mothers*	*10 Fathers*
"Going crazy"	8	2
Dark	7	1
Thunder showers	4	–
Noise	4	–
Auto-riding	3	–
Poverty	3	–
Cancer	2	–
Venereal disease	1	1
Being alone	2	2
Drunken husband	2	–
Pregnancy	2	–
Doctors and dentists	1	2
Sight of blood	–	3
Pain	–	1
Death	1	1
Dogs and mice	2	–
Fire	1	–
Crowds and a close room	1	1
"Sky falling in" on him	–	1
"Head will split open"	–	1
	44	16

Although more mothers have fears than fathers have, the average number of fears per mother and father is the same.

Perhaps it should be mentioned here that four mothers are very superstitious. One believes she receives messages in dreams from her father and she acts upon them accordingly. The others are superstitious regarding death.

Symptoms Suggestive of A Psychosis:

There were some phases of the patients' personalities which seemed to be suggestive of serious underlying neurotic tendencies. They have not been classified definitely but they are described as follows:

Paranoid Trends: Five fathers and two mothers appear to have ideas of a paranoid nature at the present time. One father believes his business partner is dishonest and that his wife and daughter are immoral. The divorced father was extremely jealous and believed that his wife was immoral, that the children were not his, and that people "picked on" him. One father believes he is held back in business by a skin rash on his chin and that his employer discriminates against him for this reason. Two other fathers have less persistent ideas regarding people discriminating against them. (A sixth father who refused to be drafted during the World War had a breakdown at that time. His family had no sympathy with his ideas and he was afraid to leave the house for fear the neighbors would jeer at him or some soldiers would attack him. As far as we know, he has recovered from this breakdown.)

One mother is very jealous of her husband but her strongest suspicions are turned toward her brother, who, she says, will kill her and her husband and will kidnap their daughter. The other mother always keeps all her doors locked and she dreads leaving home.

Three mothers and 2 fathers have ideas of reference.

Suggestive of Hallucinations: Seven mothers give histories of episodes in their lives resembling hallucinations. One mother had seen faces, and heard voices in the past but now she is bothered by "dark things" which fly at her. Another complains of something black flying at her also and the furniture seems to move. Two mothers believe their dead fathers' spirits return to them to advise and guide them. One of these has vague auditory images of her father's voice and the other thinks she sees her father. Another mother, whose favorite child died, still sees the girl and talks to her and imagines she is with her all the time. At the time of her divorce, one mother was under such a strain and was so lonesome she used to carry on imaginary conversations. (One other mother, while a patient in a state hospital, had both auditory and visual hallucinations, but as far as we know, has had none since.)

Delusions: The delusion which the manic-depressive mother had during a manic period is perhaps of no significance but might be mentioned here. During a confinement, she was sure she had been delivered of twins and one of the babies had met a violent death.

A mother and a father both speak of having "two selves". The mother has vague fellings of her "spirit" departing from her and returning to her later. The father believes there are "two of him," one which is the "evil half" which prompts the "better half" to do something wrong.

Other Neurotic Disorders: Subjective or *hysterical complaints* were found more frequently in the mothers (20) than in the fathers (12). (Many patients had more than one such complaint, but only the outstanding ones are mentioned here.) Five mothers had had or have peculiar sensations characterized chiefly by numbness and "creepy" feelings, four mothers gave a history of globus hystericus, 3 who had had hysterical aphonia, 2 who have gastric neuroses, 2 who have had habit spasms and one now has a facial tic, one who had crying spells on the same three days of each week for a year, 1 who had difficulty in breathing in closed spaces, 1 who had had hysterical deafness as well as a complete loss of sensation in the right half of the body, and 2 who have a fear of disease. In 1 of these last cases, the mother fears cancer of the breast although all medical examinations are negative.

Among the fathers we found 3 who have gastric neuroses, 2 who faint at the sight of blood, another who faints from fear and 1 from anger, 3 who have typical hysterical complaints, (1 of whom has periods of temporary blindness), one who showed a picture of neuro-circulatory asthenia, and one who has "jumpy" feelings.

Sexual Complexes: Eleven fathers and 4 mothers complained of sexual complexes which have interfered to some extent with their behavior and adjustment.

Two fathers attempt intercourse in front of their children and one of them urges his wife to be a prostitute and also insists on sleeping with his young daughter. The divorced father used to attempt fellatio with his wife as well as examine her physically to see if she had been unfaithful. One father used to punish himself and try to atone for masturbating. Another is a persistent masturbator and he has a sense of shame and inferiority as a result. One father fears impotence and linked with this are ideas of reference. One complains that sexual ideas have interfered with his work all his life. One father is said to have "thought of nothing all his life except sex." Two fathers are so dissatisfied with their sex relations with their wives that they "can't stand being around the house."

Two mothers have an aversion to sexual intercourse (one of these is receiving psychiatric treatment elsewhere.) One mother receives sexual pleasure from the spanking of her children, which is allied with her hatred of her father for having spanked her as a child. The fourth mother shows considerable emotion and conflict over her having had sexual relations before her marriage. Her husband does not know this and she worries about it.

Compulsions: Six mothers complained of having some compulsions. One says she never can go to sleep at night until she has first got up and walked about. One mother awakens from a dream and then has to get up and look around the house to see if everything is all right. One has misophobia and scrubs and cleans all day long. She also gets up frequently at night to check up on whether she locked this door or opened that window. One mother runs from one room to another compelled by a feeling she must get away from something. She also throws her arms to her face to prevent herself from being hit by something imaginary. One mother has to do all her housework from midnight on, often until four o'clock, as she insists she does it best at this time. One mother worries constantly about her relatives and freqently calls up to see if an accident has befallen them.

Obsessions: Three mothers and 2 fathers have ideas which they consider ridiculous but which, nevertheless, keep recurring to them. One mother cannot walk slowly but almost runs because she feels her head is far ahead of her feet. One mother will not clean her windows as she is so afraid she will jump out. She also worries for fear she will kill her daughter sometime because the child annoys her so much, and she seems obsessed with the idea she is going to die. Another mother regards death as very imminent and on one occasion, feeling she was about to die, ran out of the house to die in the open. She frequently has the sensation of bumping into things as she walks about the house and at night she says she does not dare to go to sleep as her husband lies with his eyes open and she thinks he "may go mad" and kill her. She also is afraid of being in a high place as she is sure she would jump.

Two other mothers, besides the above, have in the past planned to kill someone. One mother, sometime ago, planned to murder her son because he was such a bad behavior problem that she thought she would go insane if he bothered her any more. One mother use to believe that she would kill her husband sometime during a quarrel (she is now divorced.)

One father, who has obsessions, fears death will come to him while he is alone and away from home. When he is with people who irritate him, he has the desire of kicking them under the chin. At times, he will get an unaccountable desire to hit one of his children or to throw the baby across the room against the wall. He refuses to go to church or into public gatherings because he is afraid of "making a fool" of himself. Another father will worry himself into a depressed state of mind about his wife and in a crowd he will follow her about to be sure no man says anything insulting to her.

Suicidal desires and attempts: Six mothers and 1 father have at some time in the past comtemplated suicide. (Two of the mothers and the 1 father had nervous breakdowns at this time they were depressed.) One mother actually attempted to burn herself but she was probably psychotic at the time. (One mother not included in the above was ill at one time and had no desire to get well.)

At the present time, 6 mothers and 2 fathers admit they are thinking seriously of committing suicide. One mother says she would carry through her plans if it were not for her religion and two others would if their children were older. One mother has attempted suicide by gas and recently she decided never to return home again, but the thought of her children being placed kept her from carrying out this measure. Another mother recently attempted to throw herself out of a window. One mother talks of suicide quite frequently, but the impression is that she does this for the effect on the hearer. A seventh mother says she does not want to live, but she has not thought of suicide.

One father, who is very much afraid of suffering pain, says if he ever were ill, he would certainly commit suicide. The other father considers himself worthless and inferior to his wife and children and he has long periods of apathy. However, he is so afraid of death that he probably would never do away with himself.

Flight of ideas and circumstantiality: Three mothers show flight of ideas and one mother and one father circumstantiality in their conversation. (The mother who has had manic depressive attacks has shown flight of ideas also but at the present time she does not.)

Drugs: One father takes paraldehyde to quiet his nerves and to put him to sleep after a heavy drinking spell. He has had a psychosis due to drugs and other exogenous toxins, including paraldehyde.

The Patient's Intelligence:

In the introduction, we stated that we judged the intelligence of the patient by his schooling, achievements, judgments, and interests. It is, of course, impossible to be exact in placing a patient in the dull or average group, say, without benefit of an intelligence test. However, since the above was our way of determining or judging these people's intelligence, the results should be significant if for no other reason than the fact that they are compared one with the other and with the whole group.

We found, then, 12 mothers and 12 fathers whom we considered of above average intelligence. All of these, except 3 fathers, went to high school and some to college. The 3 fathers who are the exceptions are Russian Jews who were unable to obtain formal education in school. They have, however, seized every opportunity of furthering their knowledge along many lines. One of these fathers was not seen by us but his wife was most co-operative in giving his history (she herself being a social worker and a college graduate) and we felt justified in including him in this group.

We believe 22 mothers and 21 fathers to be of normal intelligence, and 16 mothers and 11 fathers of low normal or dull intelligence. The results of psychological examinations on three of these 16 mothers and one of the 11 fathers bear out our opinion as to their intelligence.

Except for the one mentioned above, we have not passed judgment on the mental equipment of the fathers whom neither the psychiatrist nor the social worker saw. Consequently, 6 fathers are placed in the group whose intelligence is unknown. One of these fathers had only a religious education and he works as a butcher, but he speaks several languages fluently. One had only a year in an Italian school and he is a laborer. He reads Italian newspapers and plays several musical instruments. The divorced father went through grammar school and became a painter, but he never had any intellectual interests. Another father went through grammar school with difficulty, receiving poor marks all the way and at the present time he is an inspector of construction. He has no intellectual interests. One father went one year to high school, is a truck driver and has several arrests for drunkenness. He reads a great deal and is especially interested in operatic music. The sixth father, who has died, spent a year in an Italian college studying architecture and later became a bricklayer in this country. He read nothing and his only interest, according to his wife, was in women.

We are, of course, not willing to attempt to classify these fathers on the basis of this meagre information.

Eighteen mothers and 7 fathers complain of being absentminded. Four mothers and 2 fathers have very poor memories and 3 mothers and 2 fathers have very poor memories and 3 mothers and 2 fathers "can't concentrate." Three other mothers and 2 other fathers say their minds "drift" from the subject at hand.

The following shows the interests of the patients in reading and in reading matter:

Reading Matter	*Mothers*	*Fathers*
Newspapers daily	22	39
Newspapers occasionally	3	2
Newspapers, sport section only	–	2
Never read newspaper	21	6
Unknown if newspaper is read	4	1
No reading at all	19	6
No reading except newspaper	4	11
Magazines, occasionally or regularly	21	21
Fiction and detective stories	14	18
Biography, poetry, economics, etc.	6	12

It is somewhat surprising to find so many mothers who do no reading at all.

Twenty-one parents, 9 mothers and 12 fathers, continued their schooling beyond high school. It is interesting to see what these people choose to read.

Personality Traits	Number of Cases	1		2		3		4		5		6		7		8		9		10	
		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Night terrors	16Mp 16Mn 8Fp 9Fn			Pn	n				p		n					n	n	p			
Nailbiting	17Mp 12Mn 7Fp 5Fn			Pn		pn			p						p	pn		p			
Food capricious	15Mp 17Mn 10Fp 12Fn				n	n			p	p			pn		p						
Bad tempers	17Mp 21Mn 12Fp 23Fn	n	p	n	n	n	pn			p	n		pn				n		pn	n	
Fainting spells	7Mp 5Mn 5Fp 4Fn		n			n										n					
Speech defect	9Mp 6Mn 3Fp 4Fn					pn				pn					pn	n				pn	
School problem	3M 8F				✓		✓			✓								✓	✓		
Other childhood neurotic traits	23M 23F	✓	✓	✓	✓	✓	✓		✓	✓				✓	✓	✓			✓		
Likes to be alone	15M 15F					✓					✓				✓					✓	
Not friendly (32M friendly) (38F friendly)	18M 12F	F	F	F	F	✓	F	F	F	✓	✓	✓	F	F	✓	F	✓	F	F	✓	F
Shy, or reserved	27M 22F					✓	✓	✓	✓	✓		✓		✓	✓	✓	✓			✓	
Sense of inferiority (11Ms) (4Fs)	7M 9F				✓									S	S ✓						
Hypersensitive	20M 18F					✓			✓	✓					✓						
Dependent on others (13 Mo) (7 Fo)	6M 8F	D			✓								D				✓	✓	D		D
Boastful, conceited (3 Ms) (7 Fs)	13F				✓								S ✓			S					
Daydreams	13Mp-13Mi 2M 4Fp- 5Fi 4F✓	P ✓	I ✓	✓		I ✓			✓	p ✓						p ✓	✓	p ✓			
Blue spells	3Mc 26M✓c 10M✓ 1F✓c 14F✓	c ✓		c ✓		c ✓		✓	✓	c		c ✓		c ✓		c ✓				c ✓	✓
Worries	14M✓F 10M✓M 3MH 9M✓c 2✓E 3F✓F 1F✓M 2FH 1F✓c 2✓E	F ✓		F ✓		c ✓				E ✓		M ✓		c ✓						F ✓	
Hyperirritable	35M 18F	✓		✓	✓	✓					✓		✓	✓			✓	✓	✓	✓	
Happy-go-lucky, irresponsible	2Mir 4Mh 13Fir 10Fh				ir						ir		ir					h			h
Jealous	9M 17F																✓	✓	✓		
Hyperactive	29M 15F	✓		✓		✓								✓		✓		✓			✓
Tires easily	18Ma 12M 6Fa 5F	A	A	A		A								A		A		A			
Many physical complaints	14M 6F	✓				✓												✓			
Fears, superstitious	26M 10F			✓		✓								✓		✓	✓				
Paranoid trends, ideas of reference	2M 3Mi 6F 2Fi				✓										✓						✓
Hallucinations, vague	5 Mothers 2 M prev.																				
Delusions	1M 1Mpr 1F																				
Hysterical spells	20M 12F	✓	✓	✓	✓	✓									✓						
Compulsions	6M									✓											
Obsessions	3M 2MP 2F																				
Suicidal desires	7MP 7Mr .3Mat 1FP 2Fn	p	p	p												p				nat	
Flight of ideas, circumstantial	3MF 1MFP 1Fc 1Mc																	F			
Impression of intelligence	22Mn 16d 12a 21Fn 11d 12a	n	n	n	d	d	? u	a	a	n	n	n	d	n	d	n	d	d	n	d	d
Psychiatric impression		n	N	H	D	n		N	N			N		N	Dec	Sit.		m		Sit.	M

Personality Traits	11		12		13		14		15		16		17		18		19		20	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Night terrors	n		pn				n		n		n			n	n		pn		pn	n
Nailbiting							pn		pn										pn	pn
Food capricious	n		pn	pn			pn		n		n						pn		pn	pn
Bad tempers		n	n		n	n	p				pn			n			n	p	pn	pn
Fainting spells													n		p				p	pn
Speech defect						pn					pn				p		p			
School problem														✓						
Other childhood neurotic traits							✓		✓								✓		✓	✓
Likes to be alone	✓			✓				✓	✓	✓	✓			✓	✓					
Not friendly	F	✓	✓	F	✓	F	F	F	✓	✓	✓	F	F	✓	✓	F	F	F	F	✓
Shy, or reserved	✓			✓	✓			✓	✓	✓	✓			✓		✓				✓
Sense of inferiority							S										S		S	S
Hypersensitive		✓						✓		✓							✓			✓
Dependent on others	D		D		D		✓		✓					D				D	✓	D
Boastful, conceited						S ✓								S						
Daydreams			I ✓					P ✓		I ✓	I ✓				I ✓		P ✓		I ✓	
Blue spells	c ✓	✓	✓		✓	✓			c ✓		c ✓		c ✓	✓	c ✓	✓	c		c ✓	
Worries	F ✓				M ✓					M ✓	H ✓		H ✓	E ✓	H ✓				F ✓	F ✓
Hyperirritable	✓		✓		✓	✓	✓				✓		✓	✓	✓		✓	✓	✓	✓
Happy-go-lucky, irresponsible						ir		h	ir			h		ir		h		ir	ir	
Jealous		✓			✓	✓								✓			✓	✓		
Hyperactive	✓	✓			✓				✓											✓
Tires easily	A								✓		✓								A	A
Many physical complaints											✓		✓		✓				✓	✓
Fears, superstitious	✓		S ✓				✓								✓				S ✓	✓
Paranoid trends, ideas of reference		✓																		
Hallucinations, vague									p						✓			O Dd	✓	
Delusions									p										✓	
Hysterical spells											✓								✓	✓
Compulsions																			✓	
Obsessions											p								✓	
Suicidal desires	n								P at				P		n				Pn at	
Flight of ideas, circumstantial									PF										F	
Impression of intelligence	d	n	d	d	n	n	n	n	d	n	d	d	n	n	n	n	n	? u	d	n
Psychiatric impression	Sit	Par	D			P	Dec	N	MD	N	n	D	n		Dec	Dec	N		Des	

Personality Traits	21		22		23		24		25		26		27		28		29		30	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Night terrors			p	pn	P				n	p	p			p	n		pn			
Nailbiting									p				p							
Food capricious	n		pn				n		pn		pn		p	n	n			n		
Bad tempers	pn		pn	n			n		p	n	pn			pn	pn		pn	pn	n	n
Fainting spells			n						pn						p					
Speech defect			pn												p					
School problem				✓														✓		
Other childhood neurotic traits				✓					✓		✓		✓	✓	✓			✓	✓	
Likes to be alone				✓	✓		✓						✓						✓	
Not friendly	F	F	F	F	F	F	F	F	F	F	✓	F	F	F	F	F	✓	F	✓	F
Shy, or reserved	✓	✓		✓	✓				✓		✓	✓	✓					✓	✓	
Sense of inferiority								✓	✓				S ✓	✓			S		S ✓	
Hypersensitive	✓	✓	✓	✓	✓		✓				✓		✓	✓					✓	
Dependent on others			D				D	✓			D			D	D					✓
Boastful, conceited								✓				S	S	✓						
Daydreams	P ✓		✓		I ✓		P ✓		I ✓						P ✓		I ✓			
Blue spells	c ✓	✓			c ✓		c ✓		c ✓		c ✓				c ✓		c ✓		✓	
Worries	F ✓	F ✓	F ✓		E ✓		F ✓		M ✓		CF ✓		M ✓		F ✓		c ✓		M ✓	
Hyperirritable			✓		✓		✓		✓	✓	✓						✓			
Happy-go-lucky, irresponsible										ir				h		h		h		ir
Jealous			✓	✓										✓		✓	✓		✓	
Hyperactive	✓		✓	✓	✓		✓		✓	✓	✓			✓	✓	✓	✓		✓	✓
Tires easily	A		A	A	✓				✓		✓	✓			✓		✓			
Many physical complaints			✓					✓							✓					
Fears, superstitious			✓		S ✓		✓		✓						✓		✓			
Paranoid trends, ideas of reference	i		✓						i										i	
Hallucinations, vague			✓		✓															
Delusions																				
Hysterical spells	✓		✓		✓				✓		✓				✓		✓	✓		
Compulsions	✓				✓															
Obsessions	✓																			
Suicidal desires					n				n											
Flight of ideas, circumstantial			F																	
Impression of intelligence	a	a	n	n	n	? u	n	d	d	n	n	n	a	a	d	? u	d	n	d	n
Psychiatric impression	m	Sit	m		M		Sit	D	n		H		N	N	D		Dpr	N	Dec	Dec

Personality Traits	31		32		33		34		35		36		37		38		39		40	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M	F.	M.	F.	M.	F.	M.	F.
Night terrors					n						pn		p					pn	pn	p
Nailbiting			pn							pn			pn			pn	pn			
Food capricious		n				p	p			pn	pn			n			p			
Bad tempers		p	n	n			n	p	p	p	pn	n								
Fainting spells	P			pn					P							p				
Speech defect																			p	
School problem							✓	✓												
Other childhood neurotic traits	✓	✓			✓	✓	✓	✓		✓						✓		✓		
Likes to be alone				✓				✓					✓	✓		✓	✓			
Not friendly	F	F	F	✓	F	F	F	F	✓	F	F	F	F	F	F	F	✓	F	✓	F
Shy, or reserved	✓		✓	✓	✓	✓			✓						✓	✓	✓			
Sense of inferiority					S ✓	S ✓			✓			✓				✓				
Hypersensitive	✓			✓	✓	✓	✓									✓	✓			
Dependent on others						✓	D	✓		✓							D	✓		
Boastful, conceited		✓					S			✓		S ✓		S ✓						
Daydreams	I ✓		P ✓			✓	I ✓	I ✓				P ✓			P ✓	P ✓	I ✓	P ✓		
Blue spells						✓		✓	c ✓		c ✓		✓					✓	c ✓	c ✓
Worries			F ✓		F ✓	H ✓	M ✓		c ✓		M ✓		M ✓					H ✓	F ✓	c ✓
Hyperirritable		✓	✓	✓			✓		✓		✓	✓	✓	✓					✓	
Happy-go-lucky, irresponsible		ir						ir		ir		h				h		ir		
Jealous		✓		✓						✓	✓	✓	✓	✓						
Hyperactive				✓			✓				✓				✓		✓		✓	
Tires easily							A		A		A		A	A	✓	✓		A	✓	
Many physical complaints	✓					✓	✓	✓			✓							✓	✓	✓
Fears, superstitious	✓		✓	✓	✓	✓		✓			S ✓				✓			✓		✓
Paranoid trends, ideas of reference		✓				i														
Hallucinations, vague	P										✓									
Delusions		*				✓														
Hysterical spells	✓	Dvd		✓		✓		✓	✓		✓							✓	✓	
Compulsions											✓									
Obsessions	P					✓					✓									
Suicidal desires						n	p				n							n		
Flight of ideas, circumstantial										c										
Impression of intelligence	n	? u	d	u	a	a	a	d	a	a	d	n	a	a	a	a	a	n	n	d
Psychiatric impression	P		Sit		N	Dec	n	P	N	P	H	P	Sit	P	N	N	P	H	n	Sit

Personality Traits	41		42		43		44		45		46		47		48		49		50		Each number represents one couple
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F	M.	F.	M.	F.	M.	F.	M- mother; F-Father.
Night terrors	p	p	p	n			p		n				n		p	p		n			p-previously. n-now
Nailbiting	pn	pn	pn		p										p	pn			pn		
Food capricious	pn	p			pn			n	p		p					pn		pn			
Bad tempers		pn	pn	n	pn			pn			p			n	p			n		n	
Fainting spells				p		pn	p														
Speech defect		n																pn			
School problem								✓													
Other childhood neurotic traits	✓	✓		✓	✓		✓	✓		✓		✓	✓	✓	✓			✓			
Likes to be alone	✓	✓						✓			✓	✓			✓	✓					
Not friendly	✓	✓	F	F	F	F	F	✓	F	F	✓	✓	F	F	F	F	F	✓	✓	F	✓ not friendly F friendly
Shy, or reserved	✓							✓		✓	✓	✓			✓	✓		✓	✓		
Sense of inferiority	S ✓	S ✓		✓					S ✓		S										S extremely self-conscious
Hypersensitive	✓	✓		✓				✓	✓		✓	✓	✓	✓	✓		✓	✓			
Dependent on others					D		D		D						✓				✓		D domineering
Boastful, conceited		✓												✓							S feels superior to spouse
Daydreams	P ✓			✓	P ✓				P ✓		I ✓	I ✓			I ✓			I ✓			P "practical daydreams" I imaginative daydreams
Blue spells	c ✓	✓	✓	✓				✓	✓		✓		✓		c ✓	✓	c ✓	✓	c		c crying spells
Worries	F ✓	F ✓						E ✓	Mc ✓		c ✓				M ✓		c ✓		c ✓		F financial c children M marital E everything H health
Hyperirritable	✓	✓	✓		✓			✓	✓		✓				✓	✓	✓		✓	✓	
Happy-go-lucky, irresponsible					h	h	h			h				ir							ir irresponsible h happy-go-lucky
Jealous	✓			✓				✓										✓			
Hyperactive			✓	✓	✓		✓	✓		✓	✓	✓	✓			✓			✓	✓	
Tires easily	✓		✓	✓					A		A	A	✓		A	✓		✓	A		A always "dragged out"
Many physical complaints															✓						
Fears, superstitious	✓			✓	✓	✓	✓		✓					✓	✓				✓		S superstitious
Paranoid trends, ideas of reference		i												P ✓					✓		P previously i ideas of reference
Hallucinations, vague																					..p previously
Delusions																					p previously
Hysterical spells						✓	✓	✓	✓							✓	✓		✓		
Compulsions																			✓		
Obsessions																					p previously
Suicidal desires																					p previously n now At attempted suicide
Flight of ideas, circumstantial													c								F flight of ideas p previously c circumstantiality
Impression of intelligence	n	n	n	a	n	n	n	? u	d	d	a	a	a	a	a	a	n	a	d	n	d dull n normal a above average u unknown
Psychiatric impression	Sit	P	N	N	N		N		D	D	Sch	N	N		n		H		n		N normal personality, 21 p psychopathic personality, 8

O Dead. * Divorced. n-neurasthenia,9; Sit-situational neurosis, 9; Dec-descriptive diagnosies, 8; Depr-depression, 1; D-dull mentally, 7; H-hysteria, 5; Par-Paranoid trend, 1. N-normal personality, 21; p-psychopathic personality, 8; m-manic personality, 4; M-manic-depressive 1; Sch-schizoid, 1; MD-manic-depressive; depr psychoses, 1. a-above average; u-unknown

	Mothers	*Fathers*
No reading at all	2	1
The more popular magazines	–	1
The better magazines	5	6
Novels and detective stories	1	3
Better fiction	4	2
Biography, scientific, philosophical, etc.	4	8

About a fifth of the mothers and a fourth of the fathers do two-thirds of the better reading done by the whole group.

The following chart shows what hobbies these parents have and what they do for recreation.

	Mothers	*Fathers*
Moving pictures	30	20
Music	12	12
Bridge, whist, or poker	9	9
Clubs	7	2
Radio	7	14
Theatre	6	9
Sewing	4	–
Dancing	3	1
Sports	2	7
Automobile riding	2	1
Church activities	2	–
Garden	1	–
Studies	1	3
Lectures	1	6
Reading only	1	2
Drawing or painting	–	4
Gambling	–	1
Drinking only	–	2
None	11	3

It seems as though the mothers were much more dependent on outside amusement than are the fathers. Of course, this can be explained by the fact that the mothers are working in the home all day and like to go out in the evenings and the reverse is frequently true in the case of the fathers.

Thirty-five mothers like their housework or at least do not mind doing it. Four say they can tolerate it because it keeps their minds off their worries. Eleven dislike their task as housewives. (Five fathers frequently help the mothers about the house.)

(See preceding page) with the chart showing the childhood neurotic traits and th personality traits at the present time of the hundred parents. The numbers at the top of the chart represent one couple and the M and F mean, respectively, Mother and Father. The extreme right column explains the symbols used in the chart. The left column gives the different problems and the frequency in which they appear. The second line from the bottom shows the intelligence of the patients and the last line gives their personality diagnoses.)

Diagnostic Impression:

All of the factors in the foregoing material were considered by us in each individual case in order better to classify the parents according to a personality diagnosis. Twenty-four parents, (2 mothers and 22 fathers), were not seen by the psychiatrist and seven fathers were seen neither by the psychiatrist or the social worker. (These personalities, therefore, are described from a social point of view.) Of the remaining 76, 68 were given a definite psychiatric diagnosis while 8 were left at a descriptive level. In these latter cases, a definite diagnosis could not be made in one or two interviews because of conflicting factors in the personalities.

The diagnosis of normal personality covers a very wide range and includes some cases which show minor maladjustments but we have considered the personality as a whole as being more important than any one of its deviations. By our definition of normal personality, however, those showing no particular maladjustments but having a poor or below average intellectual endowment fall automatically into the group of "dull mentally." If the picture is more that of an abnormal personality than of dullness only, then the patient is put in that grouping. In other words, the outstanding characteristics were the important factors in classifying each patient.

The classifications which follow are useful in summing up the personalities of the patients but are not to be considered as "labels."

The following shows the frequency of the different personality diagnoses.

	Mothers	*Fathers*	*Total*
Normal personality	12	9	21
Situational neurosis	7	2	9
Neurasthenia	9	–	9
Psychopathic personality	2	6	8
Descriptive impressions	4	4	8
Dull mentally	3	4	7
Hysteria	4	1	5
Manic personality	3	1	4
Manic-depressive personality	1	–	1
Manic-depressive depressed psychosis	1	–	1
Depression-etiology-menopause	1	–	1
Paranoid trend	–	1	1
Schizoid type of personality	1	–	1
Not seen by psychiatrist	2	22	24
	50	50	100

Normal personalities: 12 mothers and 9 fathers. The chart of the environmental problems and points of friction on page 52, and of the personality traits of these parents on page 73, show some of the characteristics in which some of these parents deviated from the socalled normal but these deviations are not outstanding enough to color the picture as a whole.

We find among the parents included in this grouping 4 mothers and 2 fathers who are of the extroverted type and 3 fathers of the introverted type. Two mothers and 1 father have had "nervous breakdowns" and 1 mother is recovering from a severe sexual complex. One of these mothers never married and another married when she was pregnant.

Situational neuroses in 7 mothers and 2 fathers have developed as a result of: unemployment in seven cases and part-time work in 1, poverty in 5 and fear of poverty in 2 cases, drunken husband in 2 cases and abusive husband in 2, ill health in three, and much friction in 7 homes.

Psychopathic personalities — 2 mothers and 6 fathers. Of these 6 fathers, three have been economically inadequate all their lives and five fathers have changed their type of work and jobs frequently. Four fathers are irresponsible in family affairs, and 4 have threatened or offered divorce to their wives. One of these mothers is divorced. Both mothers and one father show lack of emotional reaction. Three of these fathers have been immoral and there is a question of a mother having been. Five fathers are very boastful and egocentric.

Dull mentally: 3 mothers and 4 fathers. Two of these mothers are cross and hyperirritable. All 3 mothers have bad tempers and have many somatic complaints. Two fathers are easy-going and silly in manner and conversation. Two fathers are boastful and somewhat boisterous and self-satisfied. One of them has a suggestion of a paranoid trend towards his wife's parents and siblings.

Paranoid trend: 1 father. This father is extremely alcoholic and his attitude toward his associates may be due to his alcoholism. He believes his business partner is dishonest and that this partner and patient's wife are immoral, and he thinks also that a daughter is immoral. He dislikes a son and seems generally suspicious of people. He is easily slighted and is hyperirritable.

Manic-depressive personality: 1 mother. This patient has frequent spells of depression intermingled with very few spells of feeling happy. She admits the periods of depression are sometimes preceded by dreams of her dead father, or by thoughts of her having a cancer and again there are no apparent causes for the depression.

Manic-depressive depressed psychosis: 1 mother. This mother has had several episodes and at the time the psychiatrist saw her, she was going into another attack.

It was recommended that she re-enter a state hospital where she became a patient for a month and was then discharged improved.

Depression-etiology-menopause: 1 mother. This mother has hot and cold flashes and dizzy spells as well as sensations of numbness. She has depressed periods and crying spells, is irritable, has a poor memory, and is afraid that she is going insane.

Schizoid type of personality: 1 mother. She says she has been in a "shell" all her life and has always been unable to meet people. She has no friends. She daydreams a great deal about having a career as a concert singer, a pianist, and an actress. She believes she is in love with a cousin of hers, although he has never made any advances to her, and they almost never see one another.

Manic personality: 3 mothers and 1 father. These parents have the following characteristics:

	M	*F*		*M*	*F*
Rapid speech	3	1	Always tired	3	–
Flight of ideas	2	–	Hyperirritable	2	–
Daydreams	3	–	Happy-go-lucky	1	1
Vague hallucinations	1	–	Compulsions and obsession	1	–
Paranoid trend	1	1	Hysterical complaints	2	–
Ideas of reference	1	–	Dull mentally	1	1
Hyperactive	3	1	Average and above average intellectually	2	–

Neurasthenia and hysteria do not need to be discussed here because of the definitions of these diagnoses given in the introduction to this paper.

Brief descriptions of those cases (4 mothers and 4 fathers) which were not definitely classified follow:

One mother, during the interview, appeared to be of normal personality but her history is that of a neurasthenic. She has been experiencing difficulty in her sex life, which, in spite of psychiatric treatment, has not shown improvement. She shows marked instability and many neurotic traits.

One mother is a peculiar, unstable individual showing a good deal of suggestibility and a reaction of depression to her daughter's death. There is a question of vague auditory and visual hallucinations.

One mother, a white woman married to a negro, shows a schizophrenic picture along with auditory and visual hallucinations. There is a history of suicidal attempts, hysteria, compulsions, and obsessions, and she is dull mentally.

One mother is very dull. She has always been shy and bashful and has the idea that everyone looks at her because of her harelip. She fingers the scar continuously and keeps her hand over it while she talks. She is asocial and has only one friend.

One father is dull and has a strong sense of inferiority. He believes a skin rash on his chin holds him back in business and also that he is discriminated against for this reason. He perspires and blushes and has attacks of taccycardia if he is with a person who is superior to him. He is very solemn and serious-minded.

One father who presented a pleasing appearance gave a story of having periods of apathy during which he would go days at a time without washing or shaving. He speaks of having "two selves" and he has had several typical hysterical attacks. He is very suggestible and has many obsessions.

Two fathers' personalities could not be judged as one was very uncooperative and unimaginative in his conversation and the other denied several facts about himself which we knew to be true. The information which was obtained about this latter case would make one believe he would fit in the psychopathic personality group.

Patients not seen by the psychiatrist; 2 mothers and 22 fathers. The following descriptions are based on the social history of the patients and on the impression the patients made on the social worker.

Eight fathers and 1 mother had little in their history that would distinguish them from the average person. Of these, 1 has the medical diagnosis of multiple sclerosis and 2 others have fainting spells — 1 from fear and 1 at the sight of blood. The mother daydreams, has a bad temper and worries a great deal.

One father, a negro, is pleasant in manners and appearance, is very easy-going and a quiet sort of person. He seems dull mentally.

Four other fathers are alcoholic, although one has no court record, and they all have very bad tempers. Two of these are unemployed and the others work part-time.

One father was very irresponsible up to the time of his marriage when he became very serious-minded. He worries a great deal about nothing, his wife says, and becomes incensed if told that everything is going along well. He has a very bad temper and is alcoholic, but for the most part he is shy and quiet and has very few friends. He is hyperactive and restless.

One father is irresponsible and happy-go-lucky. He shows no reaction to his unemployment and seems content to be supported by his wife's mother and sister, who are hard-working. He is pleasant to meet and to talk to but he admits having a bad temper.

One father, a college graduate and now a minister, is very impulsive. He has mood swings and is first very happy and then depressed. He has many neurotic traits — he bites his nails, sucks his lip, and is food capricious. He never goes out of his way to be friendly. He has a sensation of "tingling and jumping" and has to "relax" every so often to keep from becoming very nervous. He is hyper-irritable, domineering, and hyperactive. He tires very easily.

One father refused to be drafted during the World War because he was a pacifist. At this time he had a breakdown during which he became suspicious of his family, and his neighbors, and feared being attacked by patriots. He was very depressed at this time. This same father masturbated up to his late twenties and his sense of sin compelled him to fast and to punish himself for it. His great enthusiasm for Tolstoi from whom he accepted pacifism was transferred to Ghandi whom he quoted at great length. Now, however, he has gone over to Communism and has become a militarist for the working class. Ordinarily he does not have a bad temper but if he is disagreed with in a discussion of economics or government, he flies into a rage. He is irresponsible in the home and spends most of his money for the Communistic cause. He is above average intellectually.

One father, a negro who passes as a white and who is married to a white woman, complains of having had a nervous breakdown. At the present time, he believes his stomach is very sensitive and that his wife cannot cook properly. Consequently he eats all his meals in restaurants. He has many somatic and hysterical complaints and many minor neurotic traits. He believes his family to have held him back in business and dislikes his children for this reason. He says he won't associate with his neighbors because they are uneducated. He does not have a bad temper but is very impatient and irritable.

The second mother is hyperirritable, seems ugly most of the time, and has a very bad temper. She has blue spells, is extremely jealous of her husband and also has many physical complaints.

One father is very irresponsible, selfish, and egocentric. He has deserted his family several times and threatens to do so again. He has a bad temper and has been immoral. At the time he was in the house of correction because of desertion, the prison psychiatrist diagnosed him psychopathic personality.

Another father is irresponsible and selfish. He has always been economically inadequate and all his jobs have been small, unimportant ones. He is very jealous of his wife, has a bad temper with his family, and is considered a "grouch". He has been a patient in some state hospital, but the diagnosis is not known.

The two fathers who are dead and divorced had very much the same personality as given in their social histories and agency reports. Both were irresponsible, (one father never married the mother), and they were self-centered, and immoral. Both were alcoholic and abusive. The divorced father deserted his family and both were arrested — one on an illegitimate child complaint and the other twice for non-support.

Personality Diagonses Coincident With:

1. *Unstable Biological Stock* — 26 mothers and 22 fathers. We find that of the 26 mothers who come of unstable biological stock, 21, or 81 percent of these mothers have abnormal personalities. The other mother was not seen by the psychiatrist but it does not seem from her history as though she were of normal personality. (See the brief description of her personality on page .) The remaining 4 mothers are of normal personalities.

Thirteen of the 22 fathers who come from poor stock, or 59 per cent have abnormal personalities, seven have normal, and the remaining 2 fathers are of normal personalities.

2. *Many Childhood Neurotic traits* — 11 mothers and 8 fathers. We found the eleven mothers to have been diagnosed in this paper as follows:

	Mothers		Mothers
Neurasthenia	3	Hysteria	1
Normal personality	1	Manic-personality	1
Situational neurosis	1	Dull mentally	1

Another mother who was not seen by the psychiatrist is probably of normal personality, although she still has some neurotic traits. Two mothers were not dianosed but are described in the 3rd and 5th paragraphs on page . Therefore, 81 per cent of the mothers who were problem children have abnormal personalities at the present time.

The eight fathers who showed many neurotic traits in their childhood are classified as follows: Normal personality, 1; psychopathic personality, 1; dull mentally, 1. Four other fathers not seen by the psychiatrist are definitely not of normal personalities, according to the data of other sources. The remaining father is an alcoholic. Then 7, or 87 per cent of these eight fathers are not of normal personalities.

Eight fathers were the "blacksheep" of their families. (Three of these fathers are included among those who have many neurotic habits in childhood.) Two at the present time are classified as psychopathic personalities, and another, who was not seen by the psychiatrist, was given this same diagnosis by a prison psychiatrist. One father is considered to be dull mentally with a suggestion of a paranoid trend, and one father not seen by the psychiatrist now appears to be a well-adjusted person. Another is alcoholic. The personalities of the other two fathers who were the outstandingly maladjusted members of their families are described — one at the bottom of page and the other at the top of page.

Seven-eights, then, of these fathers who were such behavior problems are classified as those who have not achieved a good personality adjustment.

3. *Asocial Behavior* — Twenty-two fathers have court records. Of these, 6 records were for violating the automobile laws and another who had the same charge against him, also, was found not guilty of forgery and uttering. So, eliminating these 7, in order to consider the fathers who had more serious charges against them, we find, of the remaining 15 fathers, 12 who definitely have abnormal personalities. (The 3 others are alcoholic and in 1 instance it is possible that alcoholism has affected his personality, as he is very shy and seems afraid of meeting people.)

Of the 12 mentioned as having abnormal personalities, 3 were diagnosed as psychopathic personalities and 5 others who were not seen by the psychiatrist appear to be psychopaths from their social histories and from social agency reports. The others were considered dull mentally 1, and dull mentally with a paranoid trend 1, paranoid trend due to alcoholism, and manic personality 1. It appears that about 86 per cent of father's showing asocial behavior are of abnormal personalities.

4. *Unemployment* — Fifteen fathers are unemployed at the present time. Their diagnoses are normal personality 3, psychopathic personality 3, dull mentally 3, manic personality 1, and paranoid trend due to alcoholism 1. The remaining four were not interviewed by the psychiatrist and, therefore, have no diagnosis. However, we know that three of them are alcoholic and the other is very irresponsible in money matters. (He is unconcerned about being without work.) It would appear as though 80 per cent of these unemployed fathers were not of normal personalities.

Nine of the 15, or 60 per cent of the fathers not working, have been without work off and on for the last few years and they appear to be inadequate as wage-earners regardless of economic conditions. We find these nine to be of the following personalities: psychopathic 2, normal 2, dull mentally 1, paranoid due to alcoholism, 1, and 3 are alcoholic. These figures are probably too small for the results to be significant but one may perhaps conclude that those fathers of normal personalities are more steadily employed and are less likely to be without work.

Regarding the ten men who work part-time, we find they have the following personality diagnoses: normal 3, psychopathic 3, situational neuroses 1, dull 1, and one is alcoholic. The negro father described on page appears to be of abnormal personality. Seventy per cent, then, of the fathers who have part-time work are not of normal personalities.

Four fathers have had irregular part-time work now over a period of years and three of these 4 have been very poor wage-earners as heads of households. Of these 4, 2 are probably psychopathic and another alcoholic. The other is probably of normal personality. (The information regarding him is very meagre.)

Summary and Discussion:

The early family life, the personal history, and the personality traits of one hundred parents of children who have been patients in the Massachusetts Division of Mental Hygiene clinics have been studied and presented in such detail that we have a complete picture of the personality of each parent. Out of a total of sixty-eight parents, (44 mothers and 24 fathers), who were definitely classified, we have found 21 normal personalities, (12 mothers and 9 fathers), 9 situational neuroses, (7 mothers and 2 fathers), 9 neurasthenics (all mothers), 8 psychopathic personalities, (2 mothers and 6 fathers), 7 who were dull mentally, (3 mothers and 4 fathers), 5 hysterias (4 mothers and 1 father), 4 manics (3 mothers and 1 father), 1 manic-depressive, (1 mother), 1 mother who was suffering from a manic-depressive depressed psychosis, 1 mother who was depressed (etiology-menopause), 1 mother of schizoid type, and one father who revealed a paranoid trend. Eight parents, (4 mothers and 4 fathers), showed such conflicting factors in their personalities that they were left at a descriptive level. (Twenty-four parents — 2 mothers and 22 fathers — were not seen by the psychiatrist and 7 of these fathers were seen neither by the psychiatrist nor the social worker, either because of inability or lack of co-operation on the part of the parents. However, we feel that we have a good picture of these parents' personalities from their social histories and other information obtained from various social and medical agencies.)

Of the parents who were interviewed by the psychiatrist, 72 per cent revealed abnormal personalities as defined in the introduction. We cannot help remarking on the very unpleasant early home-life and the many neurotic traits in the childhood of these parents of abnormal personalities. We believe if they had had access to mental hygiene clinics during this important period of their life, their personalities would be less distorted at the present time.

Furthermore, since they reveal so much maladjustment, one must consider how much influence these parents' abnormal personalities exert on their children. It has been pointed out that these parents have many more points of friction in their homes and have more undesirable environmental problems than have our normal parents. We appreciate that we have no group of parents of so-called normal children to compare with the findings of this paper, but we have found such a large percentage of abnormalities in the personalities of these parents that we may conclude that every parent's background and personality should be carefully studied during the treatment period of the child. The parent's personality, if findings warrant it, should be treated in the mental hygiene clinic along with the clinics' treatment of the child. This, we believe, would help remove some points of friction in the home, which, in turn, would help iron out the child's environment, and, consequently, would play a big part in helping the child to break himself of his bad habits and behavior. We do not mean that a child's environment should present no problems whatever for him to face, but there are in many of these homes situations that no child should be subjected to and we believe psychiatric help for the parents would remove some of them. We realize that this idea is not a new one, but this paper will serve to point out the large number of abnormalities in the personalities of the parents of habit clinic children.

Miss Winslow showed in her paper, which was also written in the Massachusetts Division of Mental Hygiene, that once the children are dismissed from habit clinic treatment, they tend to relapse to their former neurotic habits. (This is not so true of those with anti-social types of conduct, as was seen in the follow-up study of pre-delinquent children.) The fact that children tend to revert to their former neurotic habits would indicate that as long as the parents reveal so many abnormal personalities, any form of treatment which does not alleviate their own condition will be limited in its effectiveness for the habit clinic patient.

We thought it would be of particular interest to see what relationship existed between the problems of these parents and the problems of habit clinic children. A study, based on this material, has been made and is printed herewith.

We would like to suggest that a study, similar to this, be made of the personalities of parents of so-called well-adjusted children. This would be a definite aid in evaluating the constitutional and environmental factors involved in normality and would therefore permit of a differentiation between those factors which are determining and those which are less influential in causing the child's maladjustment. In order to interpret the behavior of the maladjusted child, an understanding of the background of the normal is essential.

A STUDY OF THE RELATIONSHIPS BETWEEN THE PROBLEMS OF HABIT CLINIC PATIENTS AND THEIR PARENTS

By Arthur Berk, M.D., Myrtle C. Tandy, B.A., Leonore Lane, B.A.

The preceding "Personality Study of 100 Parents of Habit Clinic Children" has given us a complete developmental picture of the parents of sixty-seven habit clinic patients. Since the material of this study has been treated entirely from the point of view of the parent, it has seemed to us important to relate these results to the habit clinic work by a further study from the point of view of the habit clinic patient. The personality of the parent is the most constant factor in the patient's environment and is commonly thought to be of great importance both as a factor in the causation of the patient's problem and a factor greatly helping or hindering successful treatment. It is not necessary for the purposes of this study to accept any particular theory as to causation. The finding of two problems in conjunction presupposes an interrelationship which, however, may or may not be causal. The purpose of this present study is, therefore, to investigate and to express in some definite way the relationships involved between the problems found in these 100 parents and the problems stated by the habit clinic workers as found in the 67 children of these same parents. We believe that by seeking the relationship existing between the problems of the parents and those of their children, we will be linking the preceding research to the practical habit clinic work and that much significant material will thus be accessible.

Material and Method:

The sources of the material from which this study has been made are the detailed case histories of the parents connected with the previous paper and the habit clinic records of the children of these parents. Some additional material on the parents has been taken from the records on the habit clinic patients. For this reason there may be slight discrepancies between some of our findings and those stated in the preceding paper. These differences never appear in essential factors, however, and are possibly also due to the fact that all of our material has been considered here from a different point of view and with a different purpose. The habit clinic record is the sole source of our information concerning the children. Since the primary purpose of these records is not research, but treatment, it may be that all the facts known about a case have not been set down in the record, and, therefore, have not been available to us. It is probable that our sections on progress and treatment of the different problems are affected by this condition.

The total number of parents included in this study is 100, comprising the 50 families studied for the other paper. At the time the study was made these parents had 124 children, 67 of whom had been patients in one of the Massachusetts Division of Mental Hygiene Habit Clinics. These 67 habit clinic patients furnish us with the material for this study. The information concerning these 67 children was obtained by the habit clinic psychiatrist, psychologist, or social worker in the course of their treatment of the child.

Our method has been first, to make case summaries for each family. The following is an outline of the summary used. It is intended to bring out the problems of the parents, of the external environment, and of the habit clinic patient and to set them down in one place for comparison. It is not intended that these summaries should show all the information available on the cases.

Research Project No. 2:
Case Summary Outline
Name
Habit Clinic Case No.
Sex
Color
Case opened (date)
Closed (date)
Referred by —
For (problem)
Parents (names)
Research No.

I. Father's problems
    Physical
    Personality
    Diagnostic Impression
II. Mother's Problems
    Physical
    Personality
    Diagnostic Impression
III. Environmental Problems
IV. Habit Clinic Patient
    Born (date)
    Age at closing
    Last I. Q.
    School progress
    Physical condition
    Problems
    Diagnostic impression of Habit Clinic psychiatrist.
    Treatment —
        Type
        Co-operation
        Number of clinic visits
        Reason for closing
        Condition

After the outline was made of each case it was our method to show by charts, which isolated the various factors in the cases, the relationships involved and finally to set down our findings and discussions.

In order to determine how closely a child's problems are related to the personality adjustment of his parents, we have attempted to isolate the personality factor by treating both parents and habit clinic patients as divided into four groups according to the diagnostic impression stated in the preceding paper. Group 1 includes those families where both parents have been considered as of normal personality. It numbers 16 parents, (8 couples) and their 14 habit clinic children. Group 2 includes those families where the father has been considered of normal personality but the mother has been considered so poorly adjusted as to be thought not normal. This group numbers 28 parents and 18 habit clinic children. Group 3 includes those families where the father is not considered normal, although the mother is. It includes 10 parents and 5 habit clinic children. Group 4 includes those families where neither parent is considered to be of normal personality. There are in this group 46 parents and their 30 habit clinic children.

Habit Clinic Patients:

Of the 67 habit clinic children to be considered, 27 are female, 40 are male. Group 1 numbers 6 female, 8 male. Group 2 numbers 8 female, 10 male. Group 3 numbers 3 female, 2 male, and Group 4 numbers 10 female and 20 male. This division is probably of little significance but is set down in order to describe further the group to be handled. It might be of some significance in considering the types of problems shown by the four different groups. Other factors defining further the groups are age and school or pre-school status. These, as well as sex, are of significance, chiefly in relation to the type of problem presented, since older children and school children would have an opportunity to present problems greater in number and different in type. The age factor would also be of significance in regard to prognosis for recovery. The age of the closing of the habit clinic case was taken for comparison, as frequently problems come to light during treatment which do not appear in the initial history.

TABLE I

Ages at Closing of Habit Clinic Case

	1 years	2 years	3 years	4 years	5 years	6 years	7 years	8 years	9 years	10 years	11 years
Group 1 . . .	1	2	5	1	1	–	3	–	–	–	–
Group 2 . . .	–	4	4	2	3	2	2	1	–	–	–
Group 3 . . .	–	–	1	–	3	–	1	–	–	–	–
Group 4 . . .	1	–	2	6	2	6	4	3	5	–	1
Totals . . .	2	7	12	9	9	8	10	4	5	–	1

Average age at closing is 4.9 years.
Total number of pre-school children at closing is 30.
Total number of school children is 37.
At the opening of the cases there were 33 pre-school children and 34 school children.

As stated in the paper on the personalities of the parents, these 50 families have 124 children. Fourteen of these families had only children, 17 had 2 children, 9 had 3 children, 7 had 4 children, 2 had 5 children, and 1 had 11 children. This does not include half-siblings step-siblings, or illegitimate children. The following shows the distribution in the four groups.

TABLE II

Group 1		*Group 2*		*Group 3*		*Group 4*	
1 family	1 child	6 families	1 child	2 families	1 child	5 families	1 child
3 families	2 children	4 families	2 children	2 families	2 children	8 families	2 children
4 families	3 children	1 family	3 children	1 family	3 children	3 families	3 children
		2 families	4 children			5 families	4 children
		1 family	11 children			2 families	5 children
8 families	19 children	14 families	36 children	5 families	9 children	23 families	60 children
Average per family:	2.4 children		2.6 children		1.8 children		2.6 children

In the 2 groups where the mothers are considered normal they have fewer children than where the mothers are not normal. Possibly this has little significance, or possibly it means that the normal mother is so because she has other outlets besides her children, or that the mother with many children is prevented from attaining a normal personality adjustment partly because of the numerous cares involved in raising a large family.

The 67 patients referred to habit clinic are grouped as follows:

TABLE III

Group 1		*Group 2*		*Group 3*		*Group 4*	
Families	*Referred Children*	*Families*	*Referred Children*	*Families*	*Referred Children*	*Families*	*Referred Children*
3 families	1 child	10 families	1 child	5 families	1 child	18 families	1 child
4 families	2 children	4 families	2 children			3 families	2 children
2 families	3 children					2 families	3 children
8 families	14 children	14 families	18 children	5 families	5 children	23 families	30 children

The group where both parents were normal referred about three-fourths of their children to the clinic; the group where the mother, only, was normal referred over one-half and the two groups where the mother was not normal referred just one-half. This probably means that normal parents are more interested in obtaining help for their children and more observant of their needs.

TABLE IV

Intelligence of These 67 Habit Clinic Children

Intelligence Quotient	*Group 1*	*Group 2*	*Group 3*	*Group 4*	*Total*
80– 89	–	1	–	2	3
90– 99	1	3	–	3	7
100–109	4	7	–	9	20
110–119	2	1	4	5	12
120–129	3	2	–	7	12
130–139	1	–	–	–	1
140–149	–	1	–	–	1
Normal (Impression of H. C. psychiatrist) .	3	3	–	4	10
Unknown	–	–	1	–	1

TABLE V

	Group 1		*Group 2*		*Group 3*		*Group 4*		*Total*	
	No.	*%**	*No.*	*%*	*No.*	*%*	*No.*	*%*	*No.*	*%*
Dull 80– 89 I. Q.	0	.00	1	.06	–	.—	2	.07	3	.04
Normal 90–109 I. Q.	8	.57	13	.72	–	.—	16	.53	37	.55
Superior 110–129 I. Q.	5	.36	3	.16	4	.80	12	.40	24	.36
Very superior 130–149 I. Q.	1	.07	1	.06	–	.—	–	.—	2	.03
Unknown	–	.—	–	.—	1	.20	–	.—	1	.02

*Percentage of group.

Discussion — A comparison of the percentages of each group falling in a certain intelligence level classification with the percentage of the total 67 children which fall in the same intelligence group will give the significant comparisons. For example, 4 per cent of the total group are dull but the two groups having normal mothers have no dull children and the groups with not normal mothers have 6 and 7 per cent of dull children respectively, but this is only 2 and 3 per cent greater than the average distribution in the clinic group. 39 percent of all the children are superior or very superior. It is interesting that group 4 includes 1 per cent more of superior children than is found in the average distribution, while group 1 has only 4 per cent more than the average distribution. Group 3 cannot well be used as a basis for conclusions, since the group of 5 children is too small to make any opinion very reliable. It would seem that group 1 has a slight preponderance of superior children, but the large percentage of superior children in group 4 would lead to the conclusion that in a parent the personality adjustment in itself is not a significant factor in relation to the child's level of intelligence, whatever its significance may be in regard to the child's problems and general personality adjustment.

Physical Problems of these 67 Habit Clinic Patients: (See Table VI, p. 43;)

Discussion: The average number of physical difficulties per habit clinic patient in group 1 where both parents are normal is less than half what it is for any other group. The children of this group are either constitutionally less susceptible to illness or so much better cared for that frequent illness is prevented. There are only four families where illness in the children during the habit clinic treatment interferred markedly with the progress of the case. One family of three children in Group 1, two families, one of two children and one of one child in Group 2, and one family of two children in group 4, fall into this classification. The illness of the habit clinic patient during treatment either tends to obscure the real problem by centering the attention on the immediate physical needs or prevents the parents temporarily from carrying out the recommendations of the psychiatrist.

Table VI
Physical Condition of Habit Clinic Patients

	Groud 1 14 H. C. patients	*Group 2 18 H. C. patients*	*Group 3 5 H. C. patients*	*Group 4 30 H. C. patients*	*Total*
History negative	5	1	1	2	9
Physical problems in history					
Frequent colds	1	3	1	6	11
Tonsillitis	1	3	1	2	7
Abscessed ears	1	4	–	4	9
Mastoid trouble	1	–	1	–	2
Pneumonia	–	–	–	2	2
Influenza	1	–	–	1	2
Childrens' diseases (measles, mumps, whooping cough, chicken pox)	6	8	4	22	40
Diphtheria	–	–	–	1	1
Scarlet fever	–	–	1	2	3
Many boils	–	–	–	3	3
Anemia	–	–	–	2	2
Rickets	–	–	–	1	1
Acidosis	1	–	–	1	2
Jaundice	1	–	–	–	1
Piles	–	–	1	–	1
Prolapse rectum	–	–	1	–	1
Undernourished	–	5	–	2	7
Pyelitis	–	2	–	1	3
Cystitis	–	–	1	–	1
Kidney paralysis	–	1	–	–	1
Gonorrheal vaginitis	–	1	–	–	1
Vincents angina	–	1	–	–	1
Throid disfunction	–	–	–	1	1
Congenital heart	–	–	–	1	1
Chorea	–	–	–	2	2
Eye difficulty	–	–	–	2	2
Phimosis	–	–	–	1	1
Hydrocele of testis	–	1	–	–	1
Eczema	–	1	–	–	1
Impetigo	–	1	–	–	1
Scabies	–	–	–	1	1
Hernia	–	1	–	1	2
Accidents	–	–	–	2	2
Convulsions	–	4	–	4	8
T and A	2	8	1	18	29
Circumcision	–	1	1	2	4
Total	15	44	13	87	159
Average number of physical difficulties per Habit Clinic points	1.1	2.4	2.6	2.9	2.4

Environmental Problems: (see Table VII, page 44).

Discussion: The above working table of environmental problems was compiled as including the most important factors making up the child's environment. They are to be considered primarily as environmental problems affecting the child. It is obvious that many of these factors are problems which are the direct result of the personalities of the parents. We have included the working chart here so that it may be compared with Table VIIA, which is a table of the more external environmental problems found in our 50 families — that is, the problems which are not so directly dependent on the personality adjustment of the parent. (See Table VIIA, page 45).

An examination of the types and number of problems in the four groups listed in Table VIIA will show how impossible it is to isolate the factor of personality from even the more external factors of environment. There are about one-half as many environmental problems in the group where both parents are normal as in the group where neither parent is normal. Where one parent is normal and one not normal the number of problems is between the two extremes with fewer in the group where mother is normal than where father is. It would seem that the mother's normality is of greater importance to the family life than is the father's. In general there seems to be an interrelationship between personality and environmental factors, but one cannot know whether the good personality adjustment of the parents in Group 1 prevented the formation of serious environmental problems or whether the lack of environmental problems permitted the development of a good personality. The two are, then, apparently inseparable.

TABLE VII

Working Table:

Environmental Problems (Including many problems resulting from Personalities of Parents.)

Problem	Parents Normal	Father Normal Mother not Normal	Father not Normal Mother Normal	Neither parents Normal	Total
	Group 1 8 families	Group 2 14 families	Group 3 5 families	Group 4 23 families	
Poor home conditions, overcrowding or dirty	2	6	1	11	20
Poor neighborhood — congested	2	7	1	10	20
Compound family, w. friction	4	4	2	8	18
Interference of neighbors, or relatives not in home	1	4	–	2	7
Unemployment or part time work	2	8	1	14	25
Worries over finances	2	9	3	18	32
Marriage of parents arranged or forced	–	1	2	4	7
Uncongenial marriage (no interest in common)	2	4	1	12	19
Quarreling or jealousy among siblings	6	4	–	13	23
Parents separated or divorced	–	–	1	2	3
Parent dead	–	–	1	1	2
Parent has considered separation, divorce or desertion	1	2	1	8	12
Parent alcoholic	1	1	1	5	8
Parent unfaithful	–	–	3	8	11
Mother had illegitimate child	–	1	1	2	4
One parent abuses other	1	2	1	4	8
Venereal disease of parent	–	–	–	3	3
Illness of parent	–	–	1	8	9
Dissatisfaction in marital sex adjustment	1	6	1	16	24
Parents of different race	–	3	–	2	5
Parents of different religion	–	4	–	8	12
Parents of different nationality	1	–	–	3	4
Parents use different language	1	1	–	1	3
Marked difference in age of parents	–	–	1	2	3
Unstable biological stock — history of insanity, serious diseases, delinquency in relatives	2	3	–	7	12
Parent favors Habit Clinic patient (or over-solicitude, only child, etc.)	1	4	1	4	10
Parents favors another sibling (or has attitude of discrimination against patient)	2	4	–	7	13
Mother works out of home	–	–	2	4	6
Mother has no recreational outlets	–	4	–	8	12
Poor attitude of school to patient	–	1	–	3	4
Undesirable companions	–	–	–	1	1
Health of siblings bad	1	1	–	2	4
Patient has sufficient outlets	1	6	3	10	20
Poor methods of discipline	5	7	3	15	30
Arguments over discipline	–	5	–	10	15
Patient has had foster home placement	–	–	1	–	1
Siblings (other) have had foster home placement	–	–	–	1	1
Total number of problems	39	102	33	237	411
Average number problems for each group	4.9	7.3	6.7	10.3	8.2

TABLE VIIA

Environmental Problems (other than those directly dependent on Personality — such as Attitudes, etc.)

Problem	*Group 1* *8 families*	*Group 2* *14 families*	*Group 3* *5 families*	*Group 4* *23 families*	*Total* *50 families*
Poor home conditions	2	6	1	11	20
Poor neighborhood	2	7	1	10	20
Compound family with friction	4	4	2	8	18
Interference of neighbors or relatives not in home	1	4	–	2	7
Unemployment or part-time work	2	8	1	14	25
Parents separated or divorced	–	–	1	2	3
Parent dead	–	–	1	1	2
Venereal disease of parent	–	–	–	3	3
Illness of parent	–	–	1	8	9
Parents of different race	–	3	–	2	5
Parents of different religion	–	4	–	8	12
Parents of different nationality	1	–	–	3	4
Parents use different language	1	1	–	1	3
Marked difference of age in parents	–	–	1	2	3
Unstable biological stock	2	3	–	7	12
Mother works our of home	–	–	2	4	6
Poo attitude of school to Habit Clinic patient	–	1	–	3	4
Undesirable companions	–	–	–	1	1
Health of siblings poor	1	1	–	2	4
Patient has insufficient outlets	1	6	3	10	20
Poor methods of discipline	5	7	3	15	30
Foster home placement of patient	–	–	1	–	1
Foster home placement of siblings	–	–	–	1	1
Total	22	55	18	118	213
Average Number Problems	2.8	3.9	3.6	5.1	4.3

Problems of the Habit Clinic Patients: (See Table VIII, page 46).

Table VIII gives all the problems of these 67 habit clinic patients as revealed by the clinic's study. The problems are grouped according to the personality adjustment of the parent and arranged in the order of the frequency in which they appeared in the total group, the most frequent appearing first, the least frequent last. The table gives both the frequency and percentages of the problem in each group. This table has been used as a basis of comparison with the table on the parents' problems which follow. (See Table IX, page 47.)

Examination of the table will reveal interesting comparisons between the problems appearing in the four groups both as to frequency and as to type. The same comparative results obtain here between the four groups as was found in the comparative results of the environmental problems; that is, the children of normal parents show fewer problems on the average than those of not normal parents. The average number of problems per parent in Group 1 is 4.6 as compared to 7.1 in Group 4. Moreover, of the two groups where 1 parent is normal and 1 not normal, the mother's normality seems to be more important than the father's since the children of Group 3 show fewer problems than those of Group 2, where the fathers were normal. (6.2 as compared with 7.) There is a very slight difference in the average number of problems between group 2 where the father is normal and the mother not normal (7) and group 4 where neither parent is normal (7.1.). The third group, however, is so small that this comparison cannot be considered very significant. The preponderance of problems in the children of not normal parents should not be taken as entirely due to the parents' personality adjustment since the latter as a factor cannot be entirely isolated from environmental, and physical factors. The results of all these factors follow remarkably the same lines and point to how inextricably one is bound up with the other.

The frequency of the different types of problems follow almost the same order in each of the four groups. A comparison of the percentages of a problem in each group with the percentages in the total 67 patients as shown in the last column will tell whether that problem occurs more or less frequently in the children of that group than in the average habit clinic patient.

Table VIII

Problems of Habit Clinic Patients	*Parents Normal*		*Fathers Normal Mothers not Normal*		*Fathers not Normal Mothers Normal*		*Parents not Normal*		*Total H. C. patients show problem*	*Percentage of 67 H. C. patients*
	8 families 14 H. C. patients		14 families 18 patients		5 families 5 patients		32 families 30 patients			50 families 67 patients
	No.	%	No.	%	No.	%	No.	%	No.	%
Disobedient, stubborn	9	.64	15	.83	3	.60	17	.57	44	.66
Temper:										
Spells	8	.57	14	.78	5	1.00	17	.57	44	.66
Food difficulty	4	.28	16	.89	3	.60	14	.47	37	.55
Sleeping difficulty	4	.28	9	.50	4	.80	13	.43	30	.45
Enuresis	3	.21	9	.50	4	.80	13	.43	29	.43
Hyperactivity, excitable, tense	3	.21	8	.44	1	.20	17	.57	29	.43
Domineering, quarrels	2	.14	8	.44	1	.20	11	.37	22	.33
Sucking thumb, clothing, etc.	5	.36	6	.33	2	.40	8	.27	21	.31
Poor school behavior	–	–	2	.29	1	.25	7	.37	10	.29
			(of sch. pts.		(of sch. pts.		(of sch. pts.			(of sch. pts.
Poor school work	–	–	2	.29			6	.32	8	.24
Masturbation			6	.33	2	.40	11	.37	19	.28
Nailbiting	3	.21	1	.06	1	.20	11	.37	16	.24
Cries, whines	4	.28	7	.39			4	.13	15	.22
Dependent, infantile	2	.14	6	.33	1	.20	3	.10	12	.18
Speech difficulty	3	.21	5	.28			3	.10	11	.16
Irritable	4	.28					5	.17	9	.13
Jealousy	3	.21	1	.06			4	.13	8	.12
Tics or mannerisms	–	–	–	–	1	.20	7	.23	8	.12
Destructive	–	–	3	.17	–	–	4	.13	7	.10
Lying	2	.14	2	.11	–	–	3	.10	7	.10
Truancy (home and school)	–	–	1	.06	1	.20	4	.13	6	.09
Self-conscious, shy, asocial	–	–	1	.06	–	–	5	.17	6	.09
Poor concentration	–	–	–	–	–	–	4	.13	4	.06
Pilfering	1	.07	–	–	1	.20	2	.07	4	.06
Soiling	–	–	–	–	–	–	4	.13	4	.06
Supersensitive	3	.21	–	–	–	–	1	.03	4	.06
Sex interest or activities	–	–	1	.06	–	–	3	.10	3	.04
Fears	–	–	1	.06	–	–	2	.07	3	.04
Dull mentality (Below 90 I. Q.)	–	–	1	.06	–	–	2	.07	3	.04
Dull mentality (Below 90 I. Q.)	–	–	1	.06	–	–	2	.07	3	.04
Daydreams	–	–	1	.06	–	–	1	.03	2	.03
Over fatigued	–	–	–	–	–	–	2	.07	2	.03
Hysterical	–	–	1	.06	–	–	1	.03	2	.03
Hypochrondriac	1	.07	–	–	–	–	1	.03	2	.03
Suspicious	–	–	–	–	–	–	1	.03	1	.01
Smoking	–	–	–	–	–	–	1	.03	1	.01
Gambling	–	–	–	–	–	–	1	.03	1	.01
Swearing	1	.07	–	–	–	–	–	–	1	.01
Total	65		126		31		213		445	
Average Number Problems per Habit Clinic patient		4.6		7.		6.2		7.1	6.6	

Other considerations regarding the habit clinic patient's problems will be taken up after the problems of the parents have been presented.

Problems of Parents: (See Tables IX, X, and XI, pages 47, 48, and 49).

Discussion: Table IX, on the parents' problems has been used as a basis of comparison with the habit clinic patient's problems given in Table VIII. For this reason the problems have been arranged in the order of frequency of occurrence in the habit clinic patients. The last column will show the percentages of the frequency of the problems appearing in the total group of 100 parents. Examination of Table IX in itself, without relation to the children's problems gives much interesting material in regard to the parents. In Tables IX and X comparisons as to type of problem, and also as to frequency, are made available for the four different groups, for fathers as compared to mothers and for the normal as compared to the not normal parent.

Table IX

Problems of Parents	*Parents Normal*		*Fathers Normal Mothers not Normal*		*Fathers not Normal Mothers Normal*		*Parents not Normal*		*Total Number Parents showing problems*	*Percentage of 100 parents*
Both past and present	8 families		14 families		5 families		23 families			
	No.	%	No.	%	No.	%	No.	%	No.	%
Stubborn, defiant (disobedient)	2	.13	1	.04	2	.20	–	–	5	.05
Temper	4	.25	14	.50	2	.20	21	.46	41	.41
Food difficulty	3	.19	9	.32	3	.30	16	.35	31	.31
Sleep difficulty	4	.25	14	.50	3	.30	17	.37	38	.38
Enuresis	1	.06	1	.04	1	.10	5	.11	8	.08
Tense, excitable, hyperactive	–	–	8	.29	3	.30	9	.20	20	.20
Domineering, quarrelsome	3	.91	–	–	2	.20	7	.15	12	.12
Sucking thumb, clothing, etc.	1	.06	2	.07	–	–	2	.04	5	.05
Poor school behavior	2	.13	2	.07	–	–	2	.04	6	.06
Poor school work	1	.06	8	.29	–	–	9	.20	18	.18
Masturbation	2	.13	1	.04	2	.20	2	.04	7	.07
Nailbiting	4	.25	3	.11	1	.10	9	.20	17	.17
Dependent, irresponsible	–	–	2	.07	1	.10	3	.07	6	.06
Speech difficulty	1	.06	3	.11	1	.10	4	.09	9	.09
Irritable, impatient	6	.38	12	.43	4	.40	24	.52	46	.46
Jealousy	2	.13	2	.07	1	.10	6	.13	11	.11
Tics or mannerisms	–	–	–	–	–	–	–	–	–	–
Destructive	–	–	–	–	–	–	–	–	–	–
Lying	–	–	–	–	1	.10	3	.07	4	.04
Truancy	–	–	–	–	–	–	–	–	–	–
Self-conscious, shy asocial	3	.19	3	.11	3	.30	9	.20	18	.18
Poor concentration	–	–	1	.04	–	–	1	.02	2	.02
Pilfering	2	.13	4	.14	2	.20	7	.15	15	.15
Soiling	–	–	–	–	–	–	–	–	–	–
Supersensitive	2	.13	7	.25	2	.20	7	.15	18	.18
Sex activities	–	–	–	–	2	.20	10	.22	12	.12
Fears	–	–	8	.29	1	.10	7	.15	16	.16
Dull mentally	1	.06	8	.29	2	.20	16	.35	27	.27
Daydreams	–	–	3	.11	–	–	7	.15	10	.10
Over fatigued	1	.06	8	.29	1	.10	10	.22	20	.20
Hysterical	–	–	4	.14	–	–	4	.09	8	.08
Hypochondriac	–	–	1	.04	1	.10	1	.02	3	.03
Paranoid ideas, suspicious	–	–	2	.07	2	.20	4	.09	8	.08
Gambling	–	–	–	–	–	–	1	.02	1	.01
Swearing	–	–	–	–	–	–	1	.02	1	.01
Takes drugs	–	–	–	–	–	–	1	.02	1	.01
Worries	4	.25	12	.43	5	.50	20	.43	41	.41
Depressed, cries easily	3	.19	11	.39	3	.30	17	.37	34	.34
Physical complaints	3	.19	10	.36	2	.20	16	.35	31	.31
Lack of marital adjustment in sex relations	–	–	5	.18	–	–	15	.33	20	.20
Breakdown	1	.06	1	.04	3	.30	6	.13	11	.11
Alcoholic	1	.06	1	.04	1	.10	5	.11	8	.08
Fainting spells	1	.06	5	.18	–	–	8	.17	14	.14
Cruel	–	–	–	–	1	.10	3	.07	4	.04
Conceited	1	.06	–	–	2	.20	7	.15	10	.10
Lazy, irresponsible	–	–	1	.04	5	.50	5	.11	11	.11
Impulsions	–	–	1	.04	1	.10	1	.02	3	.03
Hallucinations	–	–	2	.07	–	–	2	.04	4	.04
Suicidal ideas	–	–	1	.04	–	–	7	.15	8	.08
Totals	57		181		66		337		641	
Average Number of Problems per parent		3.6		6.5		6.6		7.3	6.4	

TABLE X

Problems of Normal Parents Compared to Those of Not Normal Parents

Problems of Parents (both past and present)	*Normal Fathers*	*Normal Mothers*	*Not Normal Fathers*	*Not Normal Mothers*	*Total Parents*
	Total Number 22 %	Total Number 13 %	Total Number 28 %	Total Number 37 %	Total Number 100 %
Defiant, stubborn	–	.15	.07	.03	.05
Temper	.32	.08	.36	.62	.41
Food difficulty	.18	.15	.32	.43	.31
Sleeping difficulty	.27	.31	.32	.51	.38
Enuresis (in history)	.09	.08	.04	.11	.08
Excitable, tense, hyperactive	–	.15	.14	.38	.20
Domineering, quarrelsome	.05	.15	.21	.08	.12
Sucking thumb, clothing, etc.	.05	–	.04	.08	.05
Poor school behavior	.14	.08	.04	.03	.06
Poor school work	.18	–	.14	.27	.18
Masturbation	.09	–	.14	.03	.07
Nailbiting	.09	.15	.14	.24	.17
Dependent, irresponsible	–	–	.07	.11	.06
Speech difficulty	.05	.08	.14	.08	.09
Irritable, impatient	.18	.54	.43	.65	.46
Jealousy	.09	–	.25	–	.09
Tics or mannerisms	–	–	–	–	–
Lying	–	–	.14	–	.04
Truancy	–	–	–	–	–
Self-conscious, shy, asocial	.18	.15	.25	.14	.18
Poor concentration	–	–	.04	.03	.02
Pilfering	.09	.15	.21	.14	.15
Soiling	–	–	–	–	–
Supersensitive	.14	.23	.07	.27	.18
Sex activities	–	.08	.29	.08	.12
Fears	–	–	.07	.38	.16
Dull mentally	.09	.08	.32	.29	.27
Daydreams	–	–	.04	.24	.10
Overfatigued	.05	.15	.11	.38	.20
Hysterical	–	–	–	.22	.08
Hypochondriac	–	–	.07	.03	.08
Suspicious — paranoid	–	–	.21	.05	.08
Gambling	–	–	.04	–	.01
Swearing	–	–	.04	–	.01
Taking drugs	–	–	.04	–	.01
Worries	.23	.46	.29	.59	.41
Depressed, cries easily	.05	.31	.07	.70	.34
Physical complaints	.14	.15	.11	.62	.31
Lack of marital adjustment in sex relations	.05	–	.14	.41	.20
Breakdown	.05	.08	.18	.11	.11
Alcoholic	.09	–	.21	–	.08
Fainting spells	.05	.08	.07	.27	.14
Cruel	–	–	.14	–	.04
Conceited	.05	–	.29	.03	.10
Lazy, irresponsible	.05	–	.36	–	.11
Impulsions	–	–	.04	.05	.03
Hallucinations	–	–	–	.11	.04
Suicidal ideas	–	–	–	.22	.08
Totals	.67	49	186	339	641
Average Number problems per parent	3.	3.8	6.6	9.2	6.4

Table XI

Present Medical Diagnoses of Parents

	16 Parents Group 1		*28 Parents Group 2*		*10 Parents Group 3*		*46 Parents Group 4*	
	Fathers	Mothers	Fathers	Mothers	Fathers	Mothers	Fathers	Mothersd
Anemia	–	–	–	–	–	–	–	3
Tacchycardia	–	–	–	–	–	1	–	–
Skin diseases	–	–	–	–	1	–	2	–
Stomach trouble	–	1	–	–	–	–	1	–
Cancer	–	–	–	1‡	–	1	–	1*
Lipoma	–	–	–	1	–	–	–	–
Tumor	–	–	–	1	–	–	–	–
Menopause difficulties	–	1	–	1	–	–	–	1
Obesity	–	–	–	1	–	–	–	3
High blood pressure	–	–	–	1	–	–	–	1
Chronic nephritis	–	–	–	1	–	1	–	–
Phlebitis	–	–	–	2	–	–	1	1
Arthritis	–	–	–	1	–	–	1	1
Neuralgia	–	1	–	–	–	–	–	–
Ulnar nerve palsy	1	–	–	–	–	–	–	–
Multiple sclerosis	–	–	–	–	–	–	2	–
Chronic Sinusitis	–	–	–	–	–	–	1	1
Asthma	–	–	–	–	–	–	–	2
Chronic Hernia	–	–	–	–	–	–	2	–
Present known V. D.*	–	–	–	–	–	1	–	–
Total	1	3	–	10	1	4	10	14
Percentage of group		.25		.36		.50		.52
Average number of problem per parent		.2		.5		.25	1.2	

*There have been 8 cases of venereal disease either cured or present condition unknown.)

The most frequent problem was "irritable and impatient," which occurred in 46 per cent of all parents. Next in frequency comes "worries" and "temper", each 41 per cent; "sleep difficulty" 38 per cent; "depressed, cries easily" 34 per cent; "physical complaints" and "food difficulties" each 31 per cent; "dull or below average mentality" 27 per cent; and "over fatigued, " "lack of marital adjustment in sex relations," and "tense, excitable, hyperactive" with 20 per cent each.

Group 1: The same relative order holds even in the group of normal parents — 38 per cent of whom are irritable and 25 per cent of whom worry, show temper and have sleep difficulties. It is to be noted that they have fewer of these on the average, however, than are found in the group as a whole. It is to be noted, also, that the following problems occur much less frequently in group 1: Dull mentality, most of the psychoneurotic traits, and "lack of marital adjustment in sex relations." Problems occurring to any degree more frequently in group 1 than in the total group are "stubborn, defiant", "domineering or quarrelsome," "former masturbation," and "nailbiting."

Group 2 — The order of frequency of the problems in this group follow the order in the total group without marked changed. The chief thing of note is that in this group and also group 4, where the mothers are not normal, the incidence of psychoneurotic traits increases.

Group 3 — As this group consists of but 5 families the results are not especially reliable. However, the order of frequency of problems even here is very similar to that of the other groups.

Group 4 — The average number of problems for group 4 where neither parent is normal is slightly more than twice the average number for group 1 where both parents are normal. The order of frequency of the main problems is relatively the same. The percentage of frequency for almost all problems is greater here than in the total group of 100 parents. A comparison of the percentages for the different problems in this group with the percentages for the total will tell which problems are more frequent. "Dull mentally" occurs 8 percent more often, "sex interests and activities" 10 per cent more often, etc. Several problems occur from 1 to 3 per cent less often but none more than 3 per cent. "Masturbation" and "supersensitiveness" occur 3 per cent less often in group 4 than in the total group.

Table X was worked out to serve as a basis for comparison of fathers and mothers, not normal and normal parents, considered as individuals rather than members of a family. Each problem may be compared in these ways by an examination of the table. The normal fathers show, on the average, less than one half as many problems as the not normal fathers and show less than one-third as many as the not normal mothers. Even normal mothers show many problems more frequently than not normal fathers. Some of these are "irritability," "impatience", "supersensitive", "over-fatigue", "stubborn", "defiant", "worries", "depressed spells", and "physical complaints". The normal mothers show no instances of "lack of marital adjustment in sex relations" whereas the normal fathers show 5 per cent, the not normal fathers 14 per cent, and the not normal mothers 41 per cent. Compared as to the type of problem shown, the mothers show more of the neurotic traits than the fathers, the fathers are more often self-conscious, shy and asocial.

There are any number of similar comparisons which may be made by the person who is interested but for the purposes of comparison with the children's problems it is not of particular significance to do so here. In relation to the statement already made that certain results have pointed to the fact that it is more important for the welfare of the family that the mother be normal than that the father should, it is of importance that not normal fathers have only slightly more than twice as many problems as normal fathers, whereas not normal mothers have almost three times as many problems as normal mothers.

(See Table XI)

Discussion: Table XI, which gives the present medical diagnosis of the parents shows, first, that the mothers of every group have many more physical difficulties at present than the fathers. The total number of physical problems for the fathers is 12 whereas for the mothers it is 31, or two and one half times as many. A comparison of the percentages of each group showing physical problems shows that where both parents are normal there are less than one-half as many illnesses as where neither parent is normal. In this respect group 3, consisting of but 5 families, shows an average almost as high as where neither parent is normal. As have been previously stated, this group is to small on which to base significant conclusions.

(See Table XII, page 51).

Discussin: Table XII was drawn up in order to anwser the question whether or not there is any direct relationship between a certain problem found in the parent and the same problem in the child. One those problems could be chosen for direct comparison upon which there was adequate history both for the parent and for the habit clinic patient. For example, enuresis, thumbsucking, soiling, destructiveness, etc., being more specifically problems of childhood, were not invariably covered in the parents' histories. So, also, worries, over-fatigue, physical complaints and other problems of a neurotic type are not so often found in children, and, therefore, cannot be used as a basis of comparison. All problems were compared which were considered suitable and which were adequately covered in the histories of both parents and children.

The order of problems in Table XII shows the range from the greatest to the least correlation, — that is, "impatience and irritability" — the problem of the habit clinic patient which was more often also found in the parent, is set down first, — shy, asocial, etc., — the problem found least often also in the parents, is set down last. The second percentage column (No. 2) shows the percentages of the habit patients whose parents show the same problem. In regard to the first problem this percentage represents 7/9 — obtained from the sum of the three nearest right hand columns. In the same way the percentage in the first column (No. 1) represents 2/9 — obtained from the next left-hand column. The whole last section "No. Cases Where Same Problem Not Found in H. C. Patients." was necessary in order to know whether, even though the problem may often be found in a parent, there are not just as many instances where it is found in the parent and not also in the child. This very situation occurs in the first problem. We find in 78% of the children who are impatient and irritable, that their parent is also impatient and irritable; but we find that, of the habit clinic patients who are not impatient and irritable (that is 58 children) 57% of their parents are "impatience and irritable." This fact takes away some value from the previous finding of the problems together in so many parents and children. It should be considered in the light of the fact that this particular problem of "impatience and irritability" is the one found most frequently of all in parents, irrespective of whether they have been considered normal or not normal. It is apparently not so closely related to the total personality adjustment as certain other problems.

The problem of "fears" seems to be highly correlated also, but there are so few instances of it in children, compared to the much greater number in parents, that the value of the comparison is slight.

"Temper" in a child seems to be the problem which is found much more often in conjunction with temper in a parent than not (73% as against 27%) and where at the same time it is found seldom in the parent whose child does not have it (12%). There seems to be a real relationship here. Temper in a parent seems frequently to be associated with temper in a child, presumably due somewhat to a factor of imitation, but perhaps also due to its being an instinctive type of immediate response to a frustration which takes the form of temper.

TABLE XII

Table Showing Problem to Problem Correlation

Habit Clinic Patient's Problem	*Total*	*Same problem not in Parents*		*Same problem in Mother*		*Same problem in Father*	*Same problem Parents*	*Problem in Mother only*		*Problem in Father only*	*Problem in both Parents*
			*1	*2				*3			
Impatient, irritable	9	2	.22	.78	3	3	1	.57	22	6	10
Temper	44	12	.27	.73	17	6	9	.12	4	4	–
Fears	3	1	.33	.67	2	–	–	.21	12	2	–
Dull mentally (below 90 I. Q.)	3	1	.33	.67	2	–	–	.42	15	9	4
Sleep difficulties	30	12	.40	.60	10	3	5	.22	5	6	4
Poor school work	8	4	.50	.50	2	2	–	.19	6	4	3
Food difficulties	37	19	.51	.49	10	6	2	.13	3	6	–
Hyperactive, tense or restless	29	18	.62	.38	9	2	–	.12	5	1	2
Dependent or irresponsible	12	8	.67	.33	1	3	–	.03	–	2	–
Quarrelsome, domineering	22	17	.77	.23	1	4	–	.04	–	2	1
Stubborn (disobedient)	44	38	.86	.14	2	4	–	.00	–	–	–
Jealousy	8	7	.88	.12	–	1	–	.16	–	11	–
Poor school behavior	10	9	.90	.10	1	–	–	.12	2	6	–
Shy, asocial inferiority feelings	6	6	1.00	.00	–	–	–	.19	5	5	3

*1 Shows the percentage of those H. C. patients showing this problem in which the parents do not show same problem.

*2 Shows the percentage of those H. C. patients showing this problem in which or or both parents also show same problem.

*3 Shows percentage of those H. C. patients not showing this problem, although either one or both parents do show this problem.

At the other end of the scale we find the problem of "stubborn, disobedient" in most of the children associated only 14% of the time with a "stubborn, defiant" parent. It would seem as though the child's problem were either associated with some other problem in a parent or else is a reaction of the child to a total situation.

Although the problem of "nailbiting" was not covered in every parent's history, it was felt it might be worthwhile to make the comparison between the parents and children in those 15 families where one or both parents are known to have that particular problem at the present time. There are 18 habit clinic children in these 15 families in 10 of which mothers, in 3 of which fathers, and in 2 of which both parents still bite their nails. The same problem was found in the child as in the parent in 5 cases out of the 15 families, 2 cases associated with nailbiting mothers, 2 with fathers, and one with both parents. That is, one-fifth of the nailbiting mothers had nailbiting children, two-thirds of the nail-biting fathers had nail-biting children, and one-half of the nail-biting (both) parents. There were 16 habit clinic cases of nail-biting and, therefore, 51 clinic children who did not bite their nails. Thirteen, or one-fourth of these 51 came from homes where one or both parents do show the problem of nailbiting.

In general, it would seem that imitation plays less part in the initial development of children's problems than one would commonly suppose.

"Food difficulty", which is one of those problems thought to be frequently imitated by a child, is found also in the parent in only half the instances. Thirteen per cent of the parents of children who have no food difficulties also showed food difficulties at one time or another. It would seem that there is little direct problem to problem relationship between parents and their children. This makes us seek other relationships as an explanation. It throws us back on the broader relationships involved in the grouping according to total personality adjustment. The child's response, considered as a reacting of the child rather than a reaction to the environment, must also be remembered as a necessary factor in the total child-parent, parent-child relationship. –(See Tables XIII and XIV, pages 52 and 53).

TABLE XIII

Types of Problems found in Parents whose Children are Hyperactive, Tense, or Excitable.

PARENT'S PROBLEMS	Group 1 3 H. C.* patients 6 Parents	Group 2 8. H. C.* patients 14 Parents	Group 3 1 H. C.* patients 2 Parents	Group 4 17 H. C.* patients 32 Parents	Total 29 H. C.* patients 54 Parents	% of this group	% of other 46 Parents none of whose children (26) are hyperactive
Sex interest activities	–	1	1	9	11	.20	.02
Worries	4	6	1	15	26	.48	.33
Over fatigued	1	4	1	8	14	.26	.13
Physical complaints	2	4	–	14	20	.37	.24
Depressed	3	6	2	10	21	.39	.28
Temper	4	6	1	14	25	.46	.35
Dependent, irresponsible, immature	–	–	1	5	6	.11	–
Tense, hyperactive, excitable	1	5	–	7	13	.24	.15
Hallucinations	–	2	–	2	4	.07	–
Conceited	1	–	1	5	7	.13	.07
Breakdown	–	1	1	5	7	.13	.09
Speech difficulty	1	3	–	2	6	.11	.07
Nailbiting	2	2	–	6	10	.19	.15
Impulsions	–	1	–	1	2	.04	.02
Suicidal ideas	–	1	–	4	5	.09	.07
Sleep difficulty	3	7	1	10	21	.39	.37
Shy, aspcial, feelings of inferiority	2	2	–	6	10	.19	.17
Fears	–	3	–	6	9	.17	.15
Daydreams	–	2	–	4	6	.11	.09
Supersensitive	1	5	–	4	10	.19	.17
Above problems more frequent in parents of hyperative children.							
Jealousy	1	2	–	3	6	.11	.11
Lazy, irresponsible	–	1	–	5	6	.11	.11
Pilfering	3	2	–	3	8	.15	.15
Cruel	–	–	–	2	2	.04	.04
Poor concentration	–	–	–	1	1	.02	.02
Following problems more frequent in parents of non-hyperactive children:							
Paranoid	–	2	1	1	4	.07	.09
Hypochondriac	–	1	–	–	1	.02	.04
Hysterical	–	1	–	3	4	.07	.09
Enuresis	–	1	–	3	4	.07	.09
Fainting spells	–	2	–	5	7	.13	.15
Lack of marital adjustment in sex relations	–	1	–	9	10	.19	.22
Thumbsucking	1	–	–	1	2	.04	.07
Stubborn, defiant (disobedient)	1	1	–	–	2	.04	.07
Impatient, irritable	4	5	–	15	24	.44	.48
Alcoholic	–	–	–	3	3	.06	.11
Lying	–	–	–	1	1	.02	.07
Masturbation	–	–	1	1	2	.04	.11
Food difficulties	2	3	–	10	15	.28	.35
Pugnacious, domineering	1	–	–	3	4	.07	.17
Dull	–	3	–	8	11	.20	.35
Poor school work	–	–	–	1	1	.02	.37
Totals	38	86	12	215	351		
Average number of problems per parent of a hyperactive child	6.3	6.1	6.	6.7	6.5		6.3[1]

*Habit Clinic.

[1] Problems per parent of a non-hyperative child.

The next step appeared to be to ascertain whether or not any definite relationships existed between certain problems in a child and any particular different problems in a parent. One might have chosen any problem for this sort of comparison, but certain problems lend themselves to such a study more easily than others. The four most frequent problems of habit clinic patients were considered from the problem to problem point of view. With enuresis, it would be impossible to evaluate and subtract the part played by routine habit training. It, therefore, seemed of interest to choose the problem "hyperactivity" found next in frequency to these and one whose type would seem probably to be related to the personality problems of the parents in some way. Therefore, we asked ourselves what problems the parents of hyperactive, tense children showed.

TABLE XIV

Types of Problems found in the Habit Clinic Patients whose Parents are aggressive and Domineering

PROBLEM	Group 1 3 Parents (1 Father – 2 Mothers) 5 H. C.* patients	Group 2 4 Parents (4 Mothers 4 H. C. patients*	Group 3 0 Parents 0 H. C. patients*	Group 4 12 Parents (7 Fathers- 5 Mothers) 17 H. C.* patients	Total and % 19 Parents (8 Fathers– 11 Mothers) 26 H. C.* patients		% in non-domineering Parents 31 families (39 Mother 42 Fathers 41 H. C.* patients
Dependent, infantile	1	2	–	4	7	.27	.12
Nailbiting	2	1	–	5	8	.31	.20
Poor concentration	–	–	–	3	3	.12	.02
Irritable	3	–	–	2	5	.19	.10
Destructive	–	1	–	3	4	.15	.07
Compliants of illness	1	–	–	1	2	.08	–
Daydreams	–	1	–	1	2	.08	–
Poor school adjustment	–	1	–	4	5	.19	.12
Fears	–	1	–	1	2	.08	.02
Enuresis	2	2	–	8	12	.46	.41
Tics and mannerisms	–	1	–	3	4	.15	.10
Hyperactive	1	1	–	10	12	.46	.41
Self-conscious, shy	–	–	–	3	3	.12	.07
Masturbation	–	1	–	7	8	.31	.27
Soiling	–	–	–	2	2	.08	.05
Supersensitive	1	–	–	1	2	.08	.05
Lying	1	–	–	2	3	.12	.10
Hysterical	–	–	–	1	1	.04	.02
Over-fatigue	–	–	–	1	1	.04	.02
Cries and whines	2	2	–	2	6	.23	.22
Above problems more frequent in group of children having domineering parents.							
Jealousy	1	–	–	2	3	.12	.12
Poor school work	–	–	–	3	3	.12	.12
Following problems more frequent in children of non-domineering parents.							
Dull mentally	–	–	–	1	1	.04	.05
Sex activities	–	–	–	1	1	.04	.05
Thumbsucking	3	2	–	3	8	.31	.32
Disobedient, stubborn	5	4	–	8	17	.65	.66
Speech difficulty	–	1	–	3	5	.15	.17
Suspicious	–	–	–	–	–	–	.02
Gambling	–	–	–	–	–	–	.02
Smoking	–	–	–	–	–	–	.02
Swearing	–	–	–	–	–	–	.02
Quarrelsome	–	2	–	6	8	.31	.34
Sleep difficulties	2	1	–	8	11	.42	.46[1]
Temper	3	4	–	9	16	.62	.68
Truancy	–	–	–	1	1	.04	.12
Pilfering	–	–	–	–	–	–	.10
Food difficulties	3	3	–	6	12	.46	.61
Totals	31	31	0	115	117		
Average number of problems per H. C.* patient where parent is domineering	6.2	7.8	–	7.4		6.8	6.5[2]

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*Habit Clinic.

[1] Difference of 5% or more.

[2] Problems where parent is not domineering.

Forty-three per cent of the habit clinic children were hyperactive, tense and excitable. Table XIII shows all the problems of those 54 parents (27 couples) whose children were considered hyperactive, tense, or excitable. The three extreme right hand columns summarize the findings. The problems are arranged according to the frequency of occurrence in the group of parents whose children show this problem in comparison to the group of parents whose children do not show it, and that problem is first where this difference is greatest.

Discussion — The types of problems shown by the parents of hyperactive children include many more of the neurotic manifestations than the parents of non hyperactive children. They are the problems appearing in less aggressive types of personality, whereas the problems shown by the parents of non-hyperactive children include more of the delinquent type of problem. Evidently, dull parents are not apt to have tense, hyperactive children, nor are domineering parents, whereas the worrying, depressed, fatigued type of parent, with bad temper and many physical complaints, does have tense children.

On the average, parents whose children are hyperactive show slightly more problems than do parents whose children are not, and although the whole group of normal parents shows fewer problems than the group of not normal parents this relationship does not hold for the normal parents whose children are hyperactive. There is no marked difference between the four groups in this matter.

Table XIV represents a study of the children of aggressive and domineering parents. This was made in a similar manner and here also the three extreme right hand columns give the important material. Table XII showed that quarrelsome, domineering children were associated with similar parents only in one-fourth of the cases. Neither was the problem found in the parent many times when it was not found in the child. The question then arose as to how often a child of domineering parents responded with aggression by temper, disobedience, stubbornness and delinquency, and how freqeuntly he responded by submissive traits and therefore showed problems of overdependence, neurotic traits and the more introverted types of behavior. The results of this study seem to show that domineering parents most often have children who are dependent, infantile, and express their emotional difficulties by fears, tics, and neurotic traits, and least often have children who combat the parents and express their aggression by delinquent types of behavior. It looks as if only the exceptional child could successfully stand out against an overdomineering parent.

This type of relationship, however, in spite of subdueing the children, does not do away with problems, since on an average a few more are shown where parents are domineering than where they are not.

A still different type of relationship between a parent's problem and a child's problem has been worked out to answer the question as to whether parents who were irritable and impatient produced more temper tantrums in children than the parents who were not. We have already seen, in Table XII, the direct relationship between temper in parents and children and irritability in parents and children.

In the direct problem to problem relationship study we found in regard to "temper" that there seemed to be a high percentage of cases in which the problem was found both in parent and child. We noted the possible significance of this as being due to imitation, but also noted that the frequency might be due to the fact that temper is an instinctive type of immediate response to a frustration which happened to take the form also of temper. We wish now to consider the problem of temper from the point of view of its being a reaction to a frustration. We considered the "impatient and irritable" parent as one likely to attempt to frustrate the child's free expression. We, therefore, have attempted to work out the relationships involved in "temper" in a child and "irritability and impatience" in a parent.

There are four other possible relationships if temper is considered as present or absent in the child and irritability and impatience present or absent in the parent.

(1) Eleven cases of temper were found in habit clinic patients *not associated* with irritability or impatience in a parent.

(2) Thirty-three cases of temper were found in a habit clinic patient *associated* with irritability and impatience in a parent. In 5 of these, the problem was in the father, in 22 of these the problem was in the mother, and in 6 of these, the problem occurred in both parents.

(3) In 20 cases, *no temper* was found in the child, although irritability and impatience were shown by the parent; in five of these cases it was shown by a father,

in 9 cases by a mother, and in 6 cases by both parents.

(4) The three remaining of the total of 67 habit clinic cases showed no temper and their parents neither irritability nor impatience.

Discussion — A study of the individual 11 cases in section (1) brought out the following pertinent facts: In three of these cases a parent also showed temper. Of the other eight cases, five children showed temper not as the main problem but associated with many other problems. In all of these 8 cases the parent was failing to dominate the situation either because of personal inadequacy, that is, when the parent was too easygoing, indecisive, and allowed the child to get his own way by a display of temper, or because of a mixed authority due to interference by relatives. Apparently it is the non-aggressive type of parent whose child may show temper.

Section (2) represents one-half of all the cases and here we find the two problems associated.

A study of the individual 20 cases in section (3) where we find the children showing no temper, although the parents are irritable and impatient suggests the following observations. In general, the child who is not reacting with temper has for one reason or another accepted an inferior position in the family either in regard to the parents or another sibling. Sometimes this is really an inferior position — either as the youngest sibling or as a baby who has had no time to develop marked temper.[1] There were five cases under 3 years of age and others in an inferior ordinal position. In one case, the problem was not brought out because the patient was overindulged and his behavior condoned. Sometimes the parent was overstrict and subdued the patient by this severity. In most of these cases the patient has apparently reacted in ways more indirect and less aggressive than temper. We find more problems of speech difficulties (5), tics, mannerisms and tenseness; food capriciousness, nailbiting, finger sucking, and whining and crying. These occur in a frequency out of proportion to the size of the group.

It seems that there is a definite relationship between temper in a child and impatience and irritability in a parent. You find them associated in half the cases but the factor which determines the child's reaction, as to whether it will be temper or less aggressive modes of response, seems to be the part which his personality contributes to the total situation. His acceptance of an inferior role apparently prevents his reacting in aggressive ways. Temper seems to be an exhibition of rebellion which many children do not feel equal to carrying out.

This only serves to emphasize our opinion that a study of the problem to problem relationships brings to light much material of interest and stimulation to speculation, but does not make possible the drawing of definite conclusions as to what problems one can predict for a child where a parent is known to present a certain problem. Each problem of a child is a form of reaction to a total situation inclusive of the parents' personality and the total environment. It brings less truth to consider a child's problem abstractly merely in relation to a parent's problem.

Problem to Problem Relationships in Habit Clinic Patients of Same Family

It occurred to us that a study of the problems of the habit clinic children who are members of the same family should yield interesting results inasmuch as these children in the same family are in contact with the same problems of the parents and at the same time are not in exactly the same situation otherwise, due to differences in age, position in the family, and differing attitudes on the parts of the parents to them. If, in a preponderance of the cases these children showed the same problems there would seem to be a close problem to problem relationship, but if not, it would corroborate our findings of chart XII.

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[1] One whose temper is not considered a problem because of it's age.

Problem to Problem Relationship in Habit Clinic Patients of Same Family

TABLE XV

Total Number of Families 11
Total Number of Habit Clinic patients 34
(11 families have 2 H. C. patients. — 3 families having 3 H. C. patients.)

Problems of Habit Clinic Patients	*Number of Cases*	*Number of Instances of Same Problem in 2 Patients of Same Family*
Temper	19	6 pairs (12 cases)
Disobedient, stubborn	18	7 pairs (14 cases)
Food capriciousness	15	5 cases 10 cases
Hyperactive	13	2 pairs 4 cases
Enuresis	12	3 pairs 6 cases
Sleep difficulty	12	2 pairs 4 cases
Quarrelsome	11	2 pairs 4 cases
Finger sucking	10	2 pairs 4 cases
Irritable	6	1 pair 2 cases
Masturbation	6	1 pair 2 cases
Whines and cries	6	
Jealousy	6	
Lying	5	
Soiling	4	
(Poor school work	4	
(Poor school behavior	2	
Stutters	3	1 pair 2 cases
Nailbiting	3	
Dependent	3	
Destructive	2	
Tics	2	
Truancy	2	
Self-conscious and shy	2	
Worries over health	2	
Overfatigue	1	
Poor concentration	1	
Sex activity	1	
Hysterical	1	
Swearing	1	
Pilfering	1	
Sensitive	1	
Total	175	32 pairs

The problems of temper, disobedience, food capriciousness and stuttering are the only ones which were found in pairs more often than they were found singly. Enuresis was found in pairs just as often as singly. All other problems were found less often in pairs than singly. Except for stuttering, the problems found repeated are also found more frequently in the total group. Temper also had a high correlation between parents and habit clinic patients, although because of the authority dependency relationship involved in the latter the same sort of relationship would not be possible in regard to some of the other problems.

In twenty of the problems of these pairs of habit clinic patients no correlation whatever was found. This was true only of those problems which occurred in one-fifth or less of all the cases.

The problems found repeated in the same family represent only one-third of the total number of problems.

These results also corroborated the opinion that the problem to problem relationship is less important than a consideration of a child's problem in relation to a total situation, as expressed on the parents' side by a developmental picture of the parents and the associated environmental factors, and on the child's side by a personality picture showing his associated problems and his general mode of reacting.

Relationships between the Parents' Personality and the Progress and Treatment of the Habit Clinic Patient:

We have seen that this number of problems shown by the habit clinic patients is greatly increased where the parent is not normal and the numbers of physical and environmental problems are also fround to be greater where the personalities of the parents are not normal. It now seems of importance to consider what effect the parent's personality, as presented in the child's total environmental situation, has upon the progress and treatment of the habit clinic patient. In order to answer the question as to how treatment differed in those habit clinic cases where the parents were normal from those cases where the parents were not normal, we have made up Table XVI. A study of the habit clinic records revealed certain methods of treatment which were made use of in these cases. We have analyzed those found in the records (See Table XVI).

Discussion: "Instruction to parent" is a method universally used in the habit clinic work. The one case in group 4 where this was not done was due to the fact that the parents did not attend clinic. Instruction was here given to the grandmother who brought the patient to clinic. It would seem that the mothers of group 4 were unable to profit by this instruction as readily as those normal parents of group 1. The very fact that the parents of group 4 were not normal made it impossible for them to accept and make use of the instruction given. They offered greater resistances which had to be broken down before headway could be made.

In regard to the next section "Treatment of the parent's own problem" it will be seen that the normal parents received direct treatment in only 7% of the cases, whereas the not normal parents received it in 17 — 27% of the cases (considering both types of direct treatment.) In the other 75% of these cases where the parent was not normal, it may have been considered unnecessary or unfeasible to give direct treatment to these parents. It is to be remembered, of course, that the primary purpose of the habit clinic is therapeutic — that is, treatment of children's problems.

TABLE XVI

TYPES OF TREATMENT	Group 1		Group 2		Group 3		Group 4	
	No.	%	No.	%	No.	%	No.	%
Instruction to parent	14	1.00	18	1.00	5	1.00	29	.97
Treatment of parent's own problem:								
1. Direct — by a psychiatrist . . .	1	.07	3	.17	1	.20	5	.17
2. Manipulating parent's environment to better satisfy his needs	–	–	2	.11	–	–	3	.10
Treatment of other person in environemnt: .	–		–		–		6	.20
Direct treatment of Habit Clinic Patient . (By psychiatrist, speech worker or psychologist)	2	.14	2	.11	–		9	.30
By use of record book	6	.43	3	.17	1	.20	12	.40
Manipulating Habit Clinic patients environment:								
1. By changing school, supplying club work, etc.	3	.21	7	.39	–		14	.47
2. Summer placement	–		1	.06	–		11	.37
3. Permanent placement	–		2	.11	1	.20	6	.20
4. Placement for observation	–		–		–		1	.03

It would seem that in about a quarter of the cases the psychiatrist believed that it would be helpful to the progress of the habit clinic patient to treat the parent. The clinic psychiatrist mentions in the record the direct work done with the habit clinic patient much more often in those cases where the parents are not normal also. The use of the record book for the habit clinic patient for recording his successes and failures is more common to all the four groups.

The last section on changing the habit clinic patients' environment by foster home and other placements shows how much more frequently these methods have to be resorted to in cases where the parents are not normal.

Apparently the habit clinic patients in group 4 received much more treatment of every type except "instruction" than did the children of group 1. It will be interesting to remember this fact in connection with Table XVII which shows the relative progress of the four groups of children during treatment.

TABLE XVII
Condition of Habit Clinic Cases at Time of Closing

	Group 1		Group 2		Group 3		Group 4		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Recovered	8	.57	5	.28	–		10	.33	23	.34
Greatly improved	6	.43	4	.22	2	.40	1	.03	13	.20
Slightly improved	–		8	.44	2	.40	11	.37	21	.31
Unimproved	–		1	.06	1	.20	8	.27	10	.15

Note — "Recovered" as used by the habit clinic usually means recovered from the problem for which patient was referred, not necessarily recovered from all the problems presented by patient.

From an examination of the preceding table, it will be seen that every case in Group 1 where both parents were normal either entirely recovered or greatly improved, whereas no other group gives more than 50% of its cases recovered or greatly improved, and group 4, where neither parent is normal, has the smallest percent of recovered plus greatly improved cases, or 33%. It also has the greatest number of unimproved cases, 27%, and this in spite of the fact that its cases received more treatment; that is, more different methods of attack were made on the problems of these children.

On the other hand, although group 4 and 2 make such an unfavorable showing, it should be noted that 36% and 50% of their respective groups actually did recover or greatly improved in spite of all the environmental and personality problems found in these groups.

A general opinion based on this table and the preceding one would be that the combined influence of normal personality in the parents and lack of unfavorable environmental problems greatly tends to aid in the progress of the habit clinic patient's case, even where instruction to parents and supplying outlets for the patients are the main types of treatment. This, of course, is precisely what one would expect.

In connection with Table XVII the length of treatment was worked out for the recovered and greatly improved cases, as compared with the slightly improved and as compared with the unimproved cases for the four different groups.

TABLE XVIII
Average Length of Treatment

	Group 1	Group 2	Group 3	Group 4
Recovered — greatly improved	5.1 mos.	11 mos.	12.5 mos.	7.3 mos.
Slightly improved		16 mos.	5.5 mos.	19.7 mos.
Unimproved	–	8 mos.	4 mos.	16.5 mos.

We find that the cases which recovered received treatment for a shorter period than those which were only slightly improved. Also the cases of group 1 recovered with less treatment both as to length of time and as to methods of treatment in comparison to group 4 and group 2. Since group 3 represents too few cases and the unimproved cases in group 2 number but 1 case, the averages given are not significant. Group 4 is large enough, however, so that these relationships are probably significant. Apparently, if the problems are going to clear up they do so with relatively short treatment. Cases that are continued for a long period in the hope of effecting recovery are not likely to do so. Only 1 case which recovered in group 4 was carried more than 8 months and that one was carried 20 months. It was closed as recovered which applied to the problem for which the patient was referred but not to all the problems revealed.

It was believed that the type of problem presented would probably influence the rate of progress also. Table XIX was drawn up to show which problems were most often overcome. They are arranged here in the order of frequency of recovery.

Discussion: In regard to table XIX it should be stated that it was not always possible to tell whether or not the patient had recovered from all problems previously mentioned. Enuresis, soiling, and speech difficulties seem to have met with most success. In considering progress from the point of view of the type of problem present, the factor of growth should not be left out.

TABLE XIX

Types of Problems from which Patients Recovered or Greatly Improved

PATIENTS' PROBLEM	Group 1 Number	Group 2 Number	Group 3 Number	Group 4 Number	Percent of total cases of that problem
Soiling	1	–	–	2	3 .75
Complaints of illness	–	–	–	–	1 .50
Speech difficulties	2	1	–	1	4 .36
Enuresis	2	3	1	4	10 .34
Fears	–	–	–	1	1 .33
Thumbsucking	3	–	1	1	5 .24
Sleep difficulties	1	3	–	2	6 .20
Disobedient	6	2	–	1	9 .20
Food capriciousness	2	4	–	1	7 .19
Temper	3	3	–	1	7 .16
Destructive	–	1	–	–	1 .14
Nailbiting	1	–	1	–	2 .13
Tics	–	–	–	1	1 .13
Jealousy	–	–	–	1	1 .13
Poor school work	–	–	–	1	1 .13
Masturbation	–	1	1	–	2 .11
Poor school adjustment	–	1	–	–	1 .10
Quarrelsome	–	–	–	2	2 .09
Dependent	1	–	–	–	1 .08
Cries and whines	–	–	–	1	1 .07
Hyperactive	1	–	–	–	1 .03

To return to a consideration of Table XVII it seems of importance to analyze the eleven cases found in group 4 which recovered or greatly improved in spite of all the unfavorable factors of environment and personality found in the parents. Can any information be obtained which will throw light on the cause of their improvement? They have been considered as to type of problem (see 4th column of Table XIX) and here they do not appear to be significantly different in type than the problems of the other three groups. In Table XX they will be considered from the point of view of other factors involved. For this reason the 11 recovered or greatly improved cases have been compared with the 19 unimproved or only slightly improved cases.

TABLE XX

Group 4

FACTORS	*11 Habit Clinic Patients* Recovered or greatly improved		*19 Habit Clinic Patients* Unimproved or slightly improved	
	Number	Percent	Number	Percent
Treatment factors:				
Placement for summer	3	.27	5	.26
Permanent placement	1	.09	3	.16
Treatment unfinished (referred to another agency)	0	–	3	.16
Direct work with Habit Clinic patients	4	.36	10	.53
Outlets provided	6	.55	12	.63
Direct work with parents (other than instruction)	3	.27	3	.16
"Recover" applies only to problems for which referred	6	.55	–	–
Problems in Habit Clinic patients not serious type	2	.18	–	–
Problems in Habit Clinic patients few in number	4	.36	1	.05
Social situation too unfavorable to hope for complete recovery from all problems	2	.18	7	.37
Extreme maladjustment of parent probably prevents further improvement	3	.27	7	.37
Illness prevents improvement	–	–	1	.05
Co-operation good	11	1.00	6	.32
Co-operation very poor	–	–	8	.42
Co-operation only fair	–	–	5	.26
Cause of failure unknown	–	–	1	.05
Cause of success unknown	1	.09	–	–

Discussion: Examination of the above table points to the following factors as apparently favoring recovery of these 11 patients over the 19 patients who did not recover. The percentages of the following favorable factors were greater for the recovered group: Under treatment "direct work with parent", "Problems in H. C. patients not serious in type", "Problems few in number", "Good co-operation";

and the percentages of unfavorable factors were less for the recovered group in "social situation too unfavorable to hope for complete recovery from problems," "extreme maladjustment of parent probably prevents further treatment," "illness prevents improvement," "co-operation poor." The question arises as to whether or not there is any material in this study which would throw light on the problem of decreasing these unfavorable factors. Apparently placement, direct work with habit clinic patients and the providing of more outlets for patients did not make up for other unfavorable conditions. The next to the last item on the chart concerns a case which is still active and where the lack of progress so far may be due to the mother's maladjustment. The last item concerns a case where good co-operation was obtained and many outlets provided for patient, but the social situation extremely bad. The problems, though many, were not particularly serious.

The item "Recovery applies only to problems for which patient was referred" shows that in six out of the eleven recovered cases in group 4 mention was not made of the final condition of all the problems found during clinic treatment. This is true of 55% of the improved cases in group 4, whereas in group 1, where both parents are normal, it is true in only 29% of the recovered or improved cases. Other factors of significance in comparing groups 1 and 4 as to recovery are that in group 1 almost all the cases were referred by the parent or a relative which probably influenced the degree of interest and co-operation obtained. The factor of age and growth is important here also. The average age at the time of closing of the cases in group 1 was 3.7 years whereas in group 4 it was 6.1 years.

It was the diagnostic impression of the habit clinic psychiatrist that the problems of both group 1 children and group 4 children were due primarily to environmental factors. This brings us back to the fact that the personalities of the parents are the most persistent factors in the child's environment, especially for the pre-school child. Here, especially, the environment of the child may be looked upon as the external expression of the personality of its parents since we found them to be inextricable.

TABLE XXI

Summary

	Group 1 Parents Normal 8 families 16 parents 14 H. C.* patients Average	Group 2 Father Normal Mother not normal 14 families 28 parents 18 H. C.* patients Average	Group 3 Father not Normal Morther normal 5 families 10 parents 5 H. C.* patients Average	Group 4 Neither parent normal 23 families 46 parents 30 H. C.* patients Average	Total 50 Families 100 patients 100 parents 65 H. C.* patients Average
Average number children per family	2.4	2.6	1.8	2.6	2.5
Average number physical difficulties per Habit Clinic patients	1.1	2.4	2.6	2.9	2.4
Average number environmental problems	4.9	7.3	6.7	10.3	8.2
Average number environmental problems (excluding those directly dependent on parent's personality	2.8	3.9	3.6	5.1	4.3
Average number personality problems per Habit Clinic patient	4.6	7.0	6.2	7.1	6.6
Average number personality problems per parent	3.6	6.5	6.6	7.3	6.4
Average number of present physical difficulties per parent	.2	.5	.3	1.2	2.3
Average of Total number of problems	2.9	4.6	4.3	5.7	5.0

*Habit Clinic patients.

Summary and Discussion (See Table XXI).

In this study we have attempted to examine and express certain relationships found in the parent-child situation from the point of view of the problems of the child (habit clinic patient). We believe that the child's problems — that is, his methods of reacting, considered as instruments for the expression of his own personality, should not be lost sight of in a consideration of those factors to which he reacts. The two cannot be expressed separately and must be treated from the point of view of the things related rather than of the relation itself.

We have considered the child's problems in relation to the factors of age, school or pre-school status, intelligence, physical condition and environmental problems as well as in its fundamental relation to the parents' problems and the factor of the parents' personality adjustment. The foregoing material does not present any startingly new results but it does serve to emphasize what is already known to many workers in this field, namely, that the normality of the parents is of prime importance for their children. The implications of this well-known fact have been brought out by our previous discussions of the relationships involved when parents' and childrens' problems are considered from the point of view of this factor of normal personality adjustment. It has been seen how impossible it is to isolate this factor of personality from all the other factors found in a total parent-child situation. It has also been shown that a study of a particular problem of a parent or child is more fruitful, with usable relationships if it is done from the point of view of its relation to the total personality-environmental setting rather than from the point of view of its relationship to any other single problem or factor. Until a child reaches school age, when teacher and companions become increasingly important to him, the parent is the most constant environmental factor in his life. The parents' personality, especially that of the mother, colors all other environmental factors, which have been seen to correspond closely with the parents' personality adjustment. The significance of the fact is first, that a developmental picture of the parent is necessary for the purpose of understanding the problems of the child and, further, that a break must be made at some point in the vicious personality-environment circle for the purpose of improving either factor and of accomplishing effective treatment of that child's problems. That social agency not primarily interested in effecting personality adjustment more often attacks the environmental problems, but frequently whatever is accomplished here is made effective by the conscious or unconscious resistance of the parents themselves. It would seem to be the particular contribution of the mental hygiene agency to show ways of attacking the fundamental problems in the personalities of the parents. The working out of further techniques for breaking down the resistances to treatment, which these parents show as part of their poor personality adjustment, would be a real contribution to habit clinic work. In this study we found that direct work with the parent's problems and good co-operation of the parent were the two most important factors making for effective treatment of the habit clinic patient's problems (See Table XX, page 59.) On the other hand extreme maladjustment of the parent, poor co-operation of the parent, and extremely unfavorable social situation are those factors most often hindering successful treatment. This also emphasizes the importance of the factor of the personality of the parent and gives us that point toward which an attack may most profitably be made.

FOLLOW-UP STUDY OF THIRTY HABIT CLINIC CHILDREN WHO MANIFESTED DELINQUENCY PROBLEMS BEFORE THE AGE OF TEN YEARS

By Arthur Berk, M.D., Leonore Lane, Myrtle C. Tandy

Thirty children who presented problems of anti-social behavior at the time of their habit clinic contact have been studied for this paper. These cases were chosen from among the first sixteen hundred habit clinic cases and all had been closed by the habit clinic at an average of five years previous to this study. The choice of cases was somewhat determined by the accessibility of the patient for follow-up study, the preference being given to the earlier cases so that as long a time as possible would have elapsed between clinic treatment and the present. All the children selected were in their first ten years at the time of clinic treatment.

By "delinquency problems" is meant anti-social behavior, such as stealing, pugnacity, destructiveness, fire-setting and so forth, and in milder form, truancy, disobedience, and the like.

In discussing the condition of the cases as found at present, we use the terms recovered, greatly improved, slightly improved, and unimproved. Recovered means, of course, that the child is making an excellent social adjustment to his environment. The other terms are relative. Greatly improved signifies that the child has adapted himself well, and that his prognosis against future anti-social behavior is very good. Slightly improved means that the child has made some advance toward eliminating some anti-social behavior but his prognosis regarding other outbreaks is still guarded. Unimproved means that the child still continues in his disregard for social mores and is still committing misdemeanors which if continued will probably mean future penal punishment.

The method of procedure which was followed in making this study was, first, to obtain the interval and present history of each of these former habit clinic patients from their parents during a home visit, from the teacher at school, and from social agencies, hospitals, and courts, either by an interview with a worker or by letter. (Several different sources of information were used wherever possible in order that the history obtained should be reliable. It was not always possible to obtain as detailed reports by letter from agencies and institutions as were obtained by an interview with the family. For this reason, the absence of mention of as many problems at the present time as at time of clinic contact cannot always be taken to signify the real absence of these problems.) Second, appointments at different habit clinics were made for as many of these children as would co-operate in order to obtain a psychiatric estimate of the present personality of the patient and also a psychological impression of his general intelligence. Most of the parents and children were not interested in co-operating to the extent of keeping the clinic appointment. Eleven of the total number of thirty were interviewed by a psychiatrist and four were given psychometric examinations. However, recent psychiatric and psychological estimates in a considerable number of additional cases were obtained from other child guidance agencies and from correctional institutions.

The habit clinics where these children were observed and treated were situated in the North End, East Boston, Boston Dispensary, South End (Rutland Street), West End, Roxbury (all in Boston,) and Reading, Beverly, Lynn, Lawrence, and Lowell. Because the first clinics opened were in the North End and East Boston, both in Italian district, there is a preponderance of Italian patients in this study out of proportion to the usual number attending the habit clinics.

Nationality or race of these 30 children:

Of the thirty cases, there were 10 Italians, 4 Jews, 2 Negros, and 14 Americans (chiefly of English or Irish descent.) All were born in this country with the exception of one Jewish boy who was born in Czecho-Slovakia.

We know that foreigners find it hard to adjust in a new country with different customs and living standards. Their children, although American born, must necessarily react to this adjustment in their parents. Eight of the 10 Italian children in this study are living or have lived in the North End of Boston. This happens to be a very stimulating environment. Every Saturday night crowds come here to buy market goods. A funeral or a wedding, with a band and a marching procession, is a big event. There are occasional encounters between the police and gangsters, and occasional robberies and hold ups. As this is such an exciting place for a child to live, it is no wonder that these children look for something exciting to do. Four Italian children still show anti-social behavior and three additional ones need constant supervision to prevent them reverting to delinquencies.

Jewish people are a moral people and also more submissive and their outlet takes a different trend from that of the Italians — that of a personality problem rather than that of anti-social behavior. Of the four Jewish children, one has completedly recovered and the three others show no anti-social behavior, although they still manifest behavior problems and undesirable personality traits.

Sex of these Children:

In this group of 30 children, there were 22 boys and 8 girls.

Age of Children:

The average age of these thirty children on admission to clinic was 6.4 years. The average number of visits made to clinic by patients was 8.7 and the average length of time cases were under treatment was a little over a year. Five cases had second admissions to clinic and three other cases had third admissions. In other words, about one-fourth of these children after their records were closed returned to clinic for further treatment.

Ages on admission to clinic

Ages (in years)	3	4	5	6	7	8	9	10
Number of patients	2	2	5	9	3	6	1	2
Total	30							

The average length of time which has elapsed between clinic closing and the present time is 5 years. The average age of these children at the time of this follow-up is a little over 13 years.

Ages at Present

Ages (in years)	9	10	11	12	13	14	15	16
No. of patients	2	4	5	1	7	4	3	4
Total	30							

Reasons why cases were closed by clinic:

Recovered		7	
Improved		5	
Refused to co-operate		8	
Clinic inaccessible		6	
Foster home placement	2		
Commitment to training school	1		
Clinic discontinued	2		
Family moved	1		
Cases in care of other child guidance agencies		3	
Clinic failure		1	
			30

Diagnosis of Children when Clinic Patients:

The psychiatrict diagnoses of these 30 patients are shown below —

Environmental product	11	
Mental conflict	8	
Poor training	7	
Post-encephalitis	1	
Hypomanic makeup	1	
Mental defective with emotional difficulty	1	
Deteriorating intelligence	1	
		30

(Where there was some overlapping in the above diagnoses, the one playing the greater part in influencing the child's behavior, is considered herewith.)

The first three diagnostic groups are those which can be helped psychiatrically and socially, whereas the others by their constitution limit the amount of therapy which can be given. It is encouraging that the percentage of those cases which are amenable to treatment is so large. One must not forget, however, the many obstacles which obstruct therapy.

Factors in the delinquency of these 30 children at time of clinic treatment.

Constitutional:		
Poor biological stock (mental)		18
Mental retardation in patients		8
Poor biological stock (physical)		11
Post-encephalitis in patient		1
Environmental:		
Mental conflicts in patients		26
(Conflicts over physical inferiority	8	
Conflicts over jealousy	4	
Conflicts over father's abuse to mother	4	
Conflicts over sex and masturbation	3	
Conflicts over parentage	3	
Conflicts over home insecurity	3	
Conflicts over father's absence from home	1	
Anti-social behavior of family members		16
Patients members of gangs		9
Poor neighborhooods		17
Poor home conditions		15
Economic stress		18
Broken homes		11

One parent dead	5	
Step-parent	5	
Divorce or desertion	4	
Mother's insane	2	
Foster homes		11
(Placements because of broken homes	7)	
Friction in home		9
Poor home discipline		29
Lack of affection for patient		7
Lack of adequate outlets		17
Siblings other than patient favorite in household		9
Total number		232
Average number per child		7.7

In the above we see over a half of the children coming from poor biological stock (mental) and a third from poor biological stock (physical). In these cases alone, an entirely normal response to life situations would not be anticipated on the basis of inferior mental and physical inheritance. We find over half these children coming from homes where anti-social behavior among family members is present and in these cases only partial success at best in their treatment would be justifiably expected.

However, the adverse effects of there being anti-social behavior in the home should not be accepted uncritically. Of the nine cases which recovered or greatly improved, only three came from homes where this undesirable factor did not exist. So six were not affected by this factor to the extent that they could not be greatly helped toward recovery.

At the time of this follow-up study, 17 children were living in their own homes, 6 were in correctional schools or institutions, 1 was in an institution for the mentally deficient, and 6 were living in foster homes. At present, then, about one-half of these 30 children are still in their own homes.

It should be noted that whatever the effects of these constitutional and environmental factors may be, they would act more or less constantly. That is, they would be influential not only in the production of delinquent behavior, and in limiting the clinic treatment of the child, but also in directing that child's progress since clinic closing of the case.

Physical condition of these Children:

	Frequency at Time Of Clinic Attendance	*Frequency at Present*
Good health	16	14
Undernourished	5	3
Very poor health	2	1
Convulsions after encephalitis	1	1
Post infantile paralysis debilitation	1	1
Convulsions	1	–
Heart trouble	1	2
Bright's Disease	1	–
Overweight	–	2
?Club-footed	–	1
Mild congenital lues	1	1
Congenital torticollis	1	1
?Stomach trouble, either neurotic or organic	–	1
Unknown	–	2
	30	30

Of these, encephalitis, of course, has very definitely affected the behavior of the child. In the case of the other children, their anti-social behavior in part very well might be a compensation for their physical disability. It is difficult to say just how far each child has been affected by his physical disability.

The following chart shows the frequency of all problems which these clinic children had during clinic attendance compared to those which they have manifested within the last year.

Problems	*Frequency at Time of Clinic Attendance*	*Frequency Within Last Year*
Delinquent conduct:		
Stealing	26	4
Disobedience	25	16
Truancy	20	11
Lying	20	9
Pugnacity	19	14
Destructiveness	12	2
Cruelty	11	5
Asocial	10	8
Member of asocial gang	10	1
Sex activities (other than masturbation)	9	–
Interest in firesetting	8	–
Begging on street	5	–
Gambling	2	1
Forgery (notes to school, etc.)	1	(checks) 1
Average number above habits per child	5.9	2.4
Undesirable Habits:		
Masturbation	17	5
Profane or obscene language	12	5
Food capriciousness	10	6
Nailbiting	6	5
Smoking	3	4
Average number above habits per child	1.6	.83
Undesirable Mental Attitudes and Reactions:		
Defiance	19	12
Domineering	16	11
Nyperactivity	15	14
Bad temper	15	16
Irresponsibility	13	14
Fears	9	3
Daydreaming	4	5
Personality change	3	–
Average number above reactions per child	3.1	2.5
Physical Symptoms:		
Disturbed sleep	17	4
Enuresis	10	2
Speech defect	5	3
Nervous mannerisms	4	3
Fatiguability	2	3
Crying spells	2	7
Soiling	1	1
Average number physical symptoms per child	1.4	.76
Intellectual Problems:		
Poor school behavior	20	14
Poor school work	13	15

Discussion:

In comparing the frequency of the problems shown at present with the frequency of the same problems at time of clinic treatment, the problems of each type group may be considered from the point of view of whether they have seemed relatively persistent or whether they have cleared up in at least half of the cases which previously showed them. Of course, each problem can be adequately considered only in relation to a complex situation, but it is of interest to note some of the general conditions which may have caused certain of the problems to persist or to disappear.

Most of the problems included in the group of "delinquent conduct" cleared up in at least half of the cases. The more serious behavior problems, such as stealing and firesetting would not be tolerated by society. They would necessarily have to clear up considerably as the offenders would otherwise be placed in institutions where such behavior would be impossible. That is, those problems most objectionable to society probably received most concentrated treatment at clinic and would have caused sufficient concern to parents to bring about active co-operation with the clinic and other agencies. This is true of most of the problems listed under "delinquent conduct." Disobedience and pugnacity, although classed here, are more like the personality deviations listed under "undesirable mental attitudes and reactions," and like them seem to have cleared up less often than the problems of delinquency. Truancy is probably influenced in two ways — it has cleared up in almost half the cases. The drop may not be significant as so many of these children have finished school and so no longer truant from there, and many are old enough so that their staying away from home is not considered a problem. In certain other cases where there is poor school work and adjustment, however, truancy has increased because of the child's failure to meet the increasing intellectual demands of the higher grades.

The problems listed under "undesirable habits" seemed to be more persistent than those in the "delinquent group." It may be said in regard to "masturbation" and "sex activities" that it was most difficult to obtain a true history at the present time. Oftentimes informants do not have information concerning these problems.

The problems listed under "undesirable mental attitudes and reactions" are chiefly personality problems and they also are less susceptible to change than the types of delinquent behavior which are so often less subtle and less an integral part of the whole personality. Fears cleared up in more than two-thirds of the cases. These were not the subtle dreads of an adult neurosis but the more definite fears of childhood which are more apt to be overcome or outgrown.

Under "physical symptoms" enuresis cleared up in four-fifths of the cases. The factor of increasing age is undoubtedly of influence here. The factors involved in overcoming "disturbed sleep" are less discernible. It is possible that this problem is a symptom of some emotional maladjustment and this maladjustment, if still present, may be finding expression in some other form. The remaining problems listed under "physical symptoms" have not been overcome to any extent and "crying spells" have increased to twice as many. Possibly the instability of the adolescent period, through which most of these children are going at the time of follow-up, has brought out this problem.

The problems of "poor school behavior and poor school work" have remained relatively persistent which would be expected since they are so closely related to intellectual endowment.

It should be added that, in general, the number of cases showing fewer problems at present than at clinic contact is not to be interpreted always as an actual decrease inasmuch as in the present follow-up study of each case one would necessarily be limited both as to time and as to number of informants in comparison to the facilities provided by clinic attendance for a period of months. It is also true that certain information had to be obtained from reports in which oftentimes the definite problems present were not always specified, although the general condition was stated.

Intelligence of these 30 children: I. Q.'s of patients at time of clinic treatment —

I. Q. between 70 and 79	1 case
80 and 89	4 cases
90 and 99	10 cases
100 and 109	6 cases
110 and 119	3 cases
120 and 129	1 case
I. Q. unknown	5 cases
	30 cases

Of the five cases whose I. Q. was unknown, two were considered average, two low normal, and one showed "no evidence of gross defect."

Last Known I. Q.'s of Patients:

I. Q. between	50 and 59	2 cases
	60 and 69	1 case
	70 and 79	4 cases
	80 and 89	5 cases
	90 and 99	7 cases
	100 and 109	4 cases
	110 and 119	0 cases
	120 and 129	2 cases
	130 and 139	0 cases
	140 and 149	1 case
Unknown		4 cases
		30 cases
Average I. Q. of the above 26 cases is		92

Of the four cases whose I. Q. is unknown, two were considered of average intelligence, and two were retarded. (Not all of these intelligence examinations were given by the habit clinic psychologist. Many of these reports came from other child guidance agencies and institutions.)

In ten, or one-third of the cases, there has been a considerable lowering of the intelligence quotient, which suggests the possibility of intellectual deterioration.

Two children who were previously considered by clinic to be of normal intellgence are now "backward mentally." One who was thought to be retarded now falls in the feebleminded group with an I. Q. of 59.

The following shows the numerical drop in the I.Q.'s of the other seven children.

From 115 to 100
100 to 88
99 to 89
92 to 72
From 82 to 73
72 to 68
73 to 53

The average drop in the intelligence quotients of the above seven cases has been 14.3 points.

Age — School grade attainment:

The following is a table showing the last known I. Q., the corresponding school grade at present with the age at which the grade was attained. (If the child is not in school now, then his last grade and his age at that time are included.) The progress of each case was judged with the average age on admission to Grade 1 considered to be 6 years. (In schools where the admission is at 5 years, patient would be one year more retarded than indicated in column 4.)

I. Q.	*Grade*	*Age*	*Progress*
53	Special Class	15	Retarded
59	Special Class	9	Retarded
68	Wrentham State School	14	Retarded
72	6th and Continuation	16	Retarded
73	Fourth grade	14	Retarded
74	Special Later excluded	10	Retarded
78	Third grade	11	Retarded
81	Special — now State Industrial School	17	Retraded
85	Fourth	11	Retarded
87	Fourth	11	Retarded
88	(obtained in group test) Sixth	10	Advanced
90	Fourth	10	Retarded
91	Sixth	11	Average
95	Seventh	13	Retarded
96	Eighth	13	Average
97	Second year high school	16	Retarded
97	Eighth	13	Average
99	1st year high school	15	Retarded
99	Fourth	11	Retarded
100	Eighth	13	Average
101	Eighth	14	Retarded
102	Fifth	10	Average

103	Fourth	9	Average
104	Unknown — County Training School	14	Unknown
105	Sixth	11	Average
121	Eighth	13	Average
129	Ninth	13	Advanced
140	3rd year high school	15	Advanced
Considered low Normal	Sixth	12	Retarded
Considered Retarded	Unknown — County Training School	12	Unknown

Of the 11 cases showing an I. Q. below 90, 10 cases show school retardation, (4 were in special classes and one is in a school for the mentally deficient) and one case, which rated an I. Q. of 88 on a group test is advanced. In the 8 cases showing I. Q.'s between 90 and 99, five cases are retarded in school, and three show regular progress. In the six cases of I. Q. between 100 and 109, one case with an I. Q. of 101 shows school retardation of one year, four cases show regular school progress, and in one case progress is unknown. In the 2 cases where the I. Q. is between 120 and 129 one shows regular progress and one is advanced in school. In the 140 I. Q. case, patient is advanced in school. The case considered of low normal ability is retarded in school and in the case believed to be of retarded mentality the school progress is not known. There seems to be some correlation between I. Q. and school progress in these cases considered in relation to the single factor of I. Q. Of course, many other factors (such as the starting age, illness, emotional difficulties and so forth) are involved in the question of school progress and the individual case should be studied with reference to all of these.

No. Cases	*Ages on Clinic Admission*	*Clinic Report on Intelligence*	*Family Attitude*	*Condition on Closing*
1	6	Superior	Cooperative	Recovered
3	5, 8, 8	Superior	Cooperative	Improved
6	3, 4, 6, 7, 10, 10	Normal	Cooperative	Recovered
3	5, 5, 5	Normal	Cooperative	Improved
3	4, 6, 6,	Normal	Cooperative	Unimproved
1	6	Normal	Uncooperative	Improved
5	6, 6, 6, 7, 7	Normal	Uncooperative	Unimproved
1	8	Retarded	Co-operative	Improved
1	9	Retarded	Co-operative	Unimproved
4	3, 5, 8, 8	Retarded	Uncooperative	Unimproved
1	6	Retarded	Unable to cooperate	Unimproved
1	8	Feebleminded	Uncooperative	Unimproved

Average Age on Admission 6.4:

4	superior	18	co-operative	7	recovered
18	normal	11	unco-operative	8	improved
7	retarded	1	unable to cooperate	15	unimproved
1	feebleminded				
30		30		30	

There is apparently no correlation in this group between the age of a patient at clinic admission and his condition on closing of his case. The average age of those recovered, improved, and unimproved is between 6.3 and 6.6 which is, of course, insignificant. (The average age on admission to clinic treatment was 6.4).

Of the 30 children, 4 were considered by clinic to be of superior intelligence, 18 normal, 7 retarded, and 1 feebleminded. All the superior children either recovered or improved. Of the 18 children with normal intelligence, one-third, or 6 recovered, 4 improved and 8 were unimproved at time of clinic closing. Of the 7 retarded patients, only 1 was improved, the rest unimproved. The feebleminded patient did not improve. There is a high correlation between the intelligence of the child and the progress of his case.

Regarding the co-operation of the families with habit clinic, we find 18 parents or social agencies carrying out the recommendations of the psychiatrist, 11 who were unco-operative, and one case where clinic contact was not possible because of illness. Of the 18 cases that were willing to work with clinic, 7 children recovered, 7 improved and 4 were unimproved at time of clinic closing. Of the 12 cases who were unco-operative with clinic, 1 child improved and 11 were unimproved. This shows a high correlation between the attitude of the people connected with the case toward the clinic and the progress of that case.

Seven of the children recovered, 8 improved, and 15 were unimproved at time of clinic closing.

7 Recovered:
- 1 superior intelligence, with co-operation.
- 6 normal intelligence, with co-operation.

8 Improved:
- 3 superior intelligence, with co-operation.
- 3 normal intelligence, with co-operation
- 1 retarded intelligence, with co-operation.
- 1 normal intelligence, without co-operation.

15 Unimproved:
- 3 normal intelligence, with co-operation.
- 1 retarded intelligence, with co-operation.
- 5 normal intelligence, without co-operation.
- 5 retarded intelligence, without co-operation.
- 1 feebleminded, without co-operation.

Although one child was of retarded intelligence, she improved because of her family's good co-operation with clinic. We see also that another child of normal intelligence improved during clinic treatment although her mother was most unco-operative.

Of the 15 cases closed unimproved, 11 were unco-operative. Of these 11, 5 were of normal and 5 of retarded intelligence, and 1 was feebleminded. Of the 4 who were unimproved and co-operative, one was of retarded intelligence and 3 were normal.

The cases of these 3 children of normal intelligence who still did not improve under clinic guidance, although their parents were co-operative, will be discussed in the following to show, if possible, what other factors may have been responsible for their failure to improve.

One of these boys made 24 visits to clinic in 3½ years with good co-operation from his mother. She was handicapped by great instability as well as by a very poor physical condition. The father was alcoholic, abusive to mother and children, and had no interest in the boy attending clinic. The boy got in with a bad gang and was finally placed in foster homes, some too far away to allow clinic visits and some where the foster mothers were not co-operative in following out clinic's recommendations. It was believed that the boy's having taken the part of his mother in quarrels with the father "gave rise to his revolt against authority" which became so extreme that he fought everybody. He had a feeling of not being wanted by his father and also a strong feeling of insecurity because of his frequent change of homes. At present, this boy is back in his own home in a new neighborhood and he is adjusting better now than ever previously. (His I. Q. dropped from 91 to 87 in four years' time.—)

The second of these patients paid 13 visits to clinic in a period of 3 years. Patient's mother, although intelligent and co-operative, was emotionally very unstable and herself had severe temper tantrums. His father, who was alcoholic and ill-tempered, died and patient was shifted about in different foster homes until his mother remarried. Patient's stepfather, although sympathetic towards the boy, really disliked him. Both mother and stepfather believed in the importance of heredity and talked of patient being just like his father. In spite of this attitude on the part of these parents, patient loved both of them and couldn't understand why they didn't like him. There was a great deal of friction in the home. He was moved about from home to home and used to cry because his own family didn't want him. This boy's I. Q. has dropped from 93 to 80 in four years' time. At the present time, this boy is in a home for problem boys and under this good, constant supervision is making some improvement.

The third case was that of a boy who attended clinic six times in a period of 1½ years and the case was closed because the clinic was discontinued. Patient was in bad physical condition and had occasional convulsions. His mother was a superior type of woman but was opinionated and careless in following recommendations. Discipline was most erratic. Patient's father was previously married to mother's sister and a son of this marriage who is considered feebleminded lives in the home. Patient has always been hypomanic in makeup and at the present time is hyperactive and restless. Although most of this boy's anti-social traits have cleared up, he still has many very disagreeable personality traits.

In all of these cases, we find a poor constitutional inheritance and in two, friction between parents, patients' feeling of home insecurity, and a mental deterioration (slight in one case). It would seem that in these cases possibly more had been accomplished during treatment than was realized at the time of clinic closing.

Court Records:

Nine of these 30 children (all boys except one) now have court records. Three had court records while they were patients in the habit clinic and the remaining 6 have been arrested since their clinic cases were closed. The former 3 cases were closed because one had been committed to a correctional institution and the other 2 were in the care of other child guidance agencies. (A tenth habit clinic patient, a girl, was assaulted by a boy who was brought into court as also were the patient's parents, but she herself has no court record.)

These 9 children have the following counts against them:

Larceny	4
Truancy (from school)	4
Breaking and entering	2
Stubborn	2
Working during school hours	1
Forgery	1
Uttering	1
Breaking glass	1
Neglected child	1

Five of these boys were committed to training schools, three were put on probation, and one (a girl) was placed in the care of a child placing agency. Four of the five who have been committed to industrial and training schools are still there.

The four boys in court for larceny have the following intelligence quotients — 72, 78, 81, and 99. Three of these suggest dull, or low normal intelligence. All these four boys come from families who are economically very poor and three of these families have received aid from time to time. Two of the boys belong to gangs which have been implicated in some of the thefts. (Two boys arrested for larceny were also arrested for breaking and entering and the same attendant conditions are found here. There intelligence quotients are 72 and 99.

Three of the four in court for truancy from school have the following intelligence quotients: 81, 99, and 104. The fourth is thought at the present time to be backward mentally. Two of these 4 boys suggest dull normal intelligence which might account for their lack of school interest.

The boy arrested for forgery and uttering also had a charge of larceny, truancy, and breaking glass against him. He signed 18 checks for different amounts, totaling $80, with a fictitious name. He was put on probation after his attempt to use the first check resulted in a court appearance but he did not realize, apparently, the seriousness of the charge and continued passing checks. Although in 1924 he had an I. Q. of 81, (which may have some bearing upon his breaking probation), he nevertheless planned his cashing of the checks in a skillful way. This boy comes from a poor family receiving aid. However, the money he made in cashing checks was used for his own enjoyment. His father has been dead for 10 years and this boy has been brought up by a mother who seems dull mentally. This boy had friends outside the home whom his mother never knew, although she believes he belonged to a gang.

The boy arrested for working during school hours was made to do so by his father. His brother, arrested on a stubborn charge, had been a constant truant from school and home, had bad sex habits, and used to beg on the streets. His mentality is at least normal and on one occasion he was considered of above average intelligence. Both parents of these two brothers rate as feebleminded on performance tests and the home offers a very poor environment for their development.

The girl arrested on a stubborn charge used to truant from home, stay away all night, and was involved in some stealing episodes. Her father had deserted the family, her mother had died and she had consequently been adopted by her maternal aunt, who favored her own child over patient. Patient was very unhappy with adoptive relatives and had no feeling of security nor outlets for her imagination.

The boy who was brought to court on a neglected child charge came from a home where the alcoholic father deserted and the mother died. The siblings showed anti-social behavior. Later this boy was arrested for larceny.

Average I. Q. of 8 of these patients with court records (one unknown) is 97, which is higher than the average I. Q. of the group as a whole.

Of these 9 children with court records, 4 were considered unimproved at the time their cases were closed. Two of these 4 have become increasingly worse behavior problems, and two have remained at about the same level of behavior.

One case was closed as having improved somewhat has maintained his adjustment. Another, the girl, has improved greatly. One case closed as greatly improved has continued in his improvement and except for his poor personality would be considered recovered.

Two boys who showed improvement after clinic treatment have been in training schools but have never seemed to benefit by the discipline. They are, therefore, still confined in the schools.

General Progress of These Children (30) Since Closing:

At Closing Time	*At Present Time*					
	Recovered	Greatly Improved	Slightly Improved	Unimproved	Worse	Total
Recovered	4	3	–	–	–	7
Greatly improved	–	2	–	–	–	2
Slightly improved	–	4	2	–	–	6
Unimproved	–	3	6	3	3	15
Total	4	12	8	3	3	30

This table shows, then, that:

4 children whose cases were closed as recovered
2 children whose cases were closed as greatly improved
2 children whose cases were closed as slightly improved
3 children whose cases were closed as unimproved

have maintained the same level of adjustment.

4 children whose cases were closed as slightly improved
9 children whose cases were closed as unimproved.

are making a better adjustment at present.

3 children whose cases were closed as recovered have fallen back a little but are still making a good adjustment, and 3 whose cases were closed as unimproved have become more serious problems.

In summary, 11 cases are at the same stage of adjustment as they were at clinic closing, 13 have improved in the interim since closing, and 6 are making a less good adjustment at present than at time of clinic discharge. Of these 6, however, 3 are still adjusting very well and really would be considered as greatly recovered compared to their behavior and adjustment at time of clinic referral. This leaves, then, only 3 who have become to any extent serious problems.

In other words, 24 of the 30 cases have improved since their referral to clinic.

There appears to be no correlation between the sexes in respect to improvement. Of a total of 8 girls, 7 improved and of a total of 22 boys, 18 improved.

The following charts consider the 30 cases grouped according to their condition at present compared to their condition at time of clinical discharge.

Thirteen Cases Improved since Closing

Constitutional Factors	*Factors behind original problems*	*Factors in present Adjustment*	
		Good	*Bad*
1. Superior intelligence. Poor biological stock. (physical and mental) *Greatly improved.*	Parents feebleminded and unmoral; alcoholism, friction, proverty, poor discipline, siblings are problem children ; another sibling father's favorite. Physical inferiority conflict. Conflict re father's abuse of mother.	Good foster home. Supervised by Children's Aid Association and a child guidance agency. Good insight into own condition.	Worries over mother's marital life. Jealous of psychiatrist's friendship with brother. Still same mental conflict.
2. Normal intelligence Poor biological stock — (physical) *Greatly improved*	Mother dead, patient adopted; adoptive sister favored and patient discriminated against. Poor home and neighborhood, poor discipline. Conflict because of jealousy.	Good foster home. Constant supervision and satisfactory outlets.	
3. Normal intelligence. Poor biological stock — (mental) *Greatly improved.*	Father deserted, mother inferior, many placements. Foster mother's poot discipline and attitude.	Affection in foster home for patient. Patient supervised by Child Guiardanship.	Overindulgence of patient and so patient not considered a problem. Two feebleminded girls in foster home.
4. Mental retardation. *Greatly improved.*	Mother inferior mentally. Poor home and discipline. Sister favored and patient thought abnormal. Conflict because of jealousy.	Interest of school and teacher in paitnet. Greater outlets.	Same as previously. Jealous of sister. No friends.
5. Normal intelligence. *Greatly improved.*	Proverty, overcrowded home, poor neighborhood, poor discipline. Older brother behavior problem. Father alcoholic and abusive. Much home friction. Conflict because of jealousy.	Death of older brother eliminaated jealousy. Mother's dependence makes patient responsible.	Same poverty. Father alcoholic.
6. Normal intelligence. *Greatly improved.*	Poverty, poor home, poor discipline. Exciting neighborhood. Bad gang. Foster homes.	"Learned lesson" in reform school. Ambitious in school and in work. Good effects from placements.	Conflict re father vs. mother. Constant home friction. Poor discipline.
7. Mental retardation. Poor biological stock — (mental) *Greatly improved.*	Conflicts re home insecurity and abusive treatment of mother by alcoholic father. Friction. Poor discipline. Bad gang. Many foster homes.	Back in own home and insecurity removed. Away from gang. Feeling of responsibility towards mother.	Conflict re father vs. mother. Constant home friction. Poor discipline.
8. Normal intelligence. Poor biological stock — (physical and mental) *Slightly improved.*	Older brother delinquent. Question of illegitimacy. Mother epileptic and feebleminded. Poverty, poor home and neighborhood, poor discipline. Question physical inferiority conflict.	Better neighborhood, good school. Older brother less delinquent.	Home problems worse.

9. Mental retardation. Poor biological stock.—(physical and mental) *Slightly improved.*	Poverty, poor home and neighborhood, poor discipline. Sex problems in family. Bad companions, alcoholic father.	Better neighborhood, teacher interested and has helped patient in her improvement.	Poor home, unreliable, dull, unstable mother. Friction in home.
10. Mental retardation. Hypomanic makeup — *Slightly improved.*	Poor physical condition. Harsh discipline. Question older brother feebleminded.	Likes school. Other interests substituted for anti-social behavior.	No friends. Question of physical inferiority conflict. Poor personality traits.
11. Mental retardation. Poor biological stock — (mental) *Slightly improved.*	Conflict re home insecurity. Father dead. Stepfather. Patient disliked. Home friction. Many foster homes. Poor discipline.	Good constant supervision.	In school for problem children. Some mental conflict.
12. Feebleminded. Physical inferiority. Question psychopathic personality. Poor biological stock (mental) *Slightly improved.*	Mother dead. Father abusive. Conflict re fear of father and question conflict re physical inferiority. Older bad gang. Foster homes.	Good, constant supervision.	In school for feebleminded. Father has no interest in boy. Patient has no visitors.
13. Feebleminded. Poor biological stock (physical) *Slightly improved.*	Poverty, poor home and neighborhood, severe discipline. Sister behavior problem. Physical inferiority conflict. Conflict because of jealousy.	Interest of teacher of special class. Less anti-social behavior but very poor personal-traits.	Extreme poverty. Poor discipline. Same conflict. No friends.

(The first four of these cases were closed as slightly improved. The last nine were closed as unimproved. Of these nine, three are now greatly improved compared to their condition at time of clinic referral, and six slightly improved.)

It is not possible to judge in detail the causes which lie behind a child's delinquency. The outstanding factors have been put into the preceding chart without elaboration. In looking over this chart, it is interesting to note that of the 13 children who have improved, ten children still live in the same kind of environment with practically the same environmental problems which were believed to have been causative factors in their delinquency.

In 4 of these 10 cases, where the environment is about the same as at time of clinic treatment, an interested school teacher has helped the child make a better adjustment, and 2 others receive good constant supervision in schools (1 for problem children and 1 for the mentally deficient.) One boy has "learned his lesson" after being in a reform school and is doing well, back once again in his old environment. One boy and 1 girl (one of those mentioned as being helped by a school teacher) shows no anti-social behavior at present but instead, very disagreeable personality traits. Perhaps it is true of both — cases No. 5 and 7, that the very condition which at an earlier age created a conflict regarding an alcoholic and abusive father, which was believed to be a causative factor in their anti-social behavior, has now stimulated in these children a reaction of responsibility. With this responsibility, both of these boys have dropped their former behavior and are much better adjusted. The conflict is not, of course, removed but now that they are adolescent they are able to gain the sense of satisfaction by accepting a position of responsibility which they previously would have spurned for less social behavior.

The three other cases have had many of their immediate environmental problems removed by foster home placements. For 2 of these, home security and parental affection were essential for their adjustment and these have been achieved in foster homes. In the third case, a good foster home and a child guidance agency have helped eradicate most of the anti-social behavior formerly exhibited but has left a poorly integrated personality with many undesirable traits.

Here again, we see the importance of the patient's mental equipment as regards adjustment. Among those who are greatly improved, 5 are of normal or above normal intelligence and 2 retarded, while among those slightly improved, only 1 is normal, 3 are retarded and 2 are feebleminded.

The following shows the 11 cases which have maintained the same level of adjustment as at time of clinic discharge:

ELEVEN CASES WHICH HAVE MAINTAINED SAME LEVEL OF ADJUSTMENT AS AT TIME OF CLINIC DISCHARGE

Constitutional Factors	*Factors in Original Problems*	*Factors in Present Adjustment*	
		Good	*Bad*
1. Superior intelligence. Poor biological stock — (mental) *Recovered.*	Poor discipline, extreme bad temper of father and family friction; mother dead. Stepmother's interest excellent but patient has mental conflict over her not being his mother. Other siblings behavior problems and another is father's favorite.	Ambitious in school and wants to go to college. Sells papers after school; feels responsible helping increase family income by earnings.	Father out of work and more irritable; family aided occasionally. Much family friction. No discipline. Same mental conflict.
2. Normal inteelligence. Poor biological stock — (mental) *Recovered.*	Anti-social behavior on part of parents; divorce and mother remarried; stepfather irritable and dislikes siblings. Poverty, poor home and neighborhood. Poor discipline; sister aids in delinquencies.	Better neighborhood; relatives interested in patient. Sister recovered from her delinquent behavior. Patient workds during summer; many outside interests.	Separated from sister; mother very unhappy with stepfather.
3. Normal intelligence. Poor biological stock — (physical) *Recovered.*	Teacher disliked patient. Mother in poor health. Harsh discipline. Patient thought black sheep in family. In with girls with court records. Mental conflict over sex. Poor neighborhood.	Works and enjoys it. Good neighborhood. Nice home. Some outlets in church activities.	Left school at 14; no friends. Mother very ill.
4. Normal intelligence. Poor biological stock — (physical and mental) Patient always in poor health. *Recovered.*	Anti-social behavior in parents; mother psychotic; father deserted, many foster homes and poor discipline. Belief of foster parents patient abnormal Question of physical inferiority conflict.	Good foster home and discipline. Outlet in girl scouts.	Poor health. Still question mental conflict. Sees mother occasionally.
5. Normal intelligence. Poor biological stock. — (physical and mental) *Greatly improved.*	Parents feebleminded. Marital friction; anti-social behavior of parents. Father abusive. Poor discipline, poverty, poor neighborhood; siblings' behavior problems. Another sibling father's favorite. Conflict regarding masturbation.	Foster parents fond of patient. Supervised by Children's Aid Association and by Child Guidance psychiatrist.	Many foster homes. Conflict re masturbation and religion. Unstable foster home. No affection for family members or foster parents.
6. Low normal intelligence. Poor biological stock — (mental) *Greatly improved.*	Poverty, dependent, poor neighborhood. Father deported because of insanity. Patient goes with older, bad gang. Poor discipline. Friction in home beacuse of compound family. Mother irritable. Physical inferiroity conflict. Question conflict over father's absence.	No anti-social habits but many poor disagreeable personality traits.	Recent poor health. Teacher prejudiced against him. Poverty, and dependence. Mother's poor health. Question of remarrying. Jealousy of sister Conflicts still present. No affection for mother. No time to play.

ELEVEN CASES WHICH HAVE MAINTAINED SAME LEVEL OF ADJUSTMENT AS AT TIME OF CLINIC DISCHARGE. — Concluded.

Constitutional Factors	*Factors in Original Problems*	*Factors in Present Adjustment*	
		Good	*Bad*
7. Low normal intelligence. Poor biological stock — (mental) *Slightly improved.*	Mother feebleminded, alcoholic, immoral. Patient has contact with mother. Parents divorced and father remarried; patient in uncle's home. Stepmother jealous of patient. Poor discipline.	Good supervision in training school.	Apparently has deteriorated mentally. Committed for truancy to a training school.
8. Superior intelligence. Poor biological stock — (mental) *Slightly imrpoved.*	Father insane and committed suicide. Mother supporting family. Mother interprets patient's behavior in light of father's breakdown. Compound family. Patient went with bad gang.	Good supervision in school where he lives, year round. Underdeveloped physically.	Homesick and not allowed to go home from school. School strict and perhaps not stimulating enough for one of this boys' intelligence and imagination.
9. Normal intelligence. Poor biological stock — (physical and mental) *Unimproved.*	Mother a mulatto and father a white; parents immoral; father has deserted several times. Family dependent. Poor home, neighborhood, and discipline. Father of mother's illegitimate children living in home.	Good supervision in training school. Mother remarried.	Committed for truancy to a training school.
10. Borderline intelligence. *Unimproved.*	Poor neighborhood. Erratic discipline. Bad gang. Poor health. Question physical inferiority conflict. Conflict re masturbation.	Better neighborhood. Uncle has good insight into boy's condition. No anti-social outbreaks but poor personality adjustment.	Neurotic complaints. Juvenile Court record. Boy unemployed Question wehther will work. Mother in poor health. Parents out of home all day and children without supervision. Conflict over masturbation. Has a gang.
11. Feebleminded. *Unimproved.*	Poor home and neighborhood. No discipline of children. Sister shows delinquent trend. Question physical inferiority conflict.	In special class and teacher interested. A sister is mother's favorite. No anti-social outbreaks but poor personality traits.	Physical inferiority conflict. Same poor home and neighborhood. Mother in poor health and excitable.

Concerning the first of these 11 cases which were closed recovered and which are still adjusting so satisfactorily, we find 3 of them working and enjoying their work, and all 4 of them have outlets which are of interest to them. Three are of normal and 1 of above normal intelligence.

Four of the other 7 children who have neither improved nor slipped back since their clinic discharge, are supervised closely, 1 by a child guidance agency, 2 by training schools, and 1 by a strict private school. The other three show no anti-social outbreaks but they have all made a poor personality adjustment. In these last 3 cases, two of which are of retarded intelligence and one feebleminded, we find someone — a relative or a teacher, — who has some interest in the child and his behavior adjustment.

The following chart shows the 6 cases which have not kept up the adjustment they had at the time of clinic closing:

SIX CASES WHICH HAVE NOT MAINTAINED THE ADJUSTMENT THEY HAD AT THE TIME OF CLINIC DISCHARGE

Constitutional Factors	*Factors in Original Problems*	*Factors in Present Adjustment*	
		Good	*Bad*
1. Normal intelligence. Inferior stock — (physical and mental)	Poverty, poor home, neighborhood and discipline; friction and alcoholism in home; no outlets. Conflict re home security and father's abuse of mother.	Greater outlets through social agencies, summer camps, etc.	Poverty, etc. as before. Father immoral. Unemployment.
2. Normal intelligence. Inferior stock — (physical and mental)	Influence of psychotic mother, broken home, foster homes, and poor discipline. Conflict re parentage.	Good foster home, father's interest in patient. Supervision by children's agency, good discipline, and wholesome outlets	Broken home and question mental conflict re separation from father and sister. Poor personality traits.
3. Normal intelligence.	Poor neighborhood, jealousy of brother, very severe discipline.	Good neighborhood. Question anti-social behavior having given way to poor personality adjustment. Teacher interest.	Poor discipline. Another sibling parents' favorite. Older brother bosses patient which he resent.
4. Post-encephalitis. Deteriorating I. Q.	Poor discipline. Mother emotionally attached to patient.	Good physicial condition.	Same as before. Bad school behavior and adjustment and final expulsion. Compound family. Mother believes patient about to die.
5. Mental retardation.	Father dead. Poverty, poor home and neighborhood. Mother dull, no discipline. Foreign language in home, no outlets. Question gang.	Good supervision in industrial school	Court record and now in Shirley Industrial School.
6. Feebleminded. Inferior stock — (mental)	Question mental conflicts re parentage. Own home poor and poor discipline in foster home. Lack of co-operation with clinic. Delinquency in relatives.	Supervision of children's agency, Parole and good foster home.	Court record and formerly inmate of Lyman School. Delinquency in relatives. Poor discipline until recently.

The first 3 of these cases were closed as recovered but they are not making quite as good adjustment as they were at that time. None of them manifests any anti-social behavior but 2 of them show a poor personality adjustment. All 3 have someone or some agency interested in them and their outlets are good. They are all of normal intelligence.

The last 3 of these 6 cases were unimproved at time of clinic closing and are even greater behavior problems at present. All 3 are of inferior intelligence. They are at present the only children of the 30 who have retrograded to any alarming extent.

Summary:

This follow-up study of 30 habit clinic children who manifested anti-social behavior during their first ten years was made in order to see what adjustment has been effected since their clinic discharge. This group of 30 children was made up of 8 girls and 22 boys. No essential differences between the sexes were found either in the types of problems or in the degree of improvement. The average age of the children on admission to clinic was 6.4 years, the average length of treatment slightly over a year, an average of 5 years has elapsed since treatment, and the average age at the time of this follow-up study is 13 years. (Eight children returned to clinic for further treatment after their cases had been closed.)

The nationality of the group was affected by the location of the clinics. There were 10 Italians, 4 Jews, 2 American-born Negros and 14 Americans. Four of the ten Italian children still are socially maladjusted and three others are constantly supervised to prevent them from reverting to delinquencies. Of the Jewish children, one has made a complete recovery, and the other three, although showing no delinquent behavior, have effected an undesirable personality adjustment. This number of children is so small it is not possible to conclude that this is the expected outcome in adjustments of delinquent Italian and Jewish children.

Over half of these patients came from mentally inferior or unstable stock and over a third of them from physically inferior stock. Over half of the children were members of families where criminality and delinquency existed, and nine were themselves members of delinquent gangs.

Over half these children came from poor neighborhoods and from homes where there was economic stress. Fifteen, or one-half, were in homes without one or both parents, because of death, divorce, desertion, insanity, and placement due to undesirable environmental problems. In 9 homes, there was a great deal of friction, in 7, little or no affection for the patient, and in 17, the homes were devoid of interests and of recreational outlets for the patients. In 29 of the thirty homes, there was poor discipline or no training at all. At the present time, 17 children live in their own homes, 6 in foster homes, 6 in correctional schools or institutions, and 1 in a school for the mentally deficient.

About half the children were in good health at time of clinic attendance and this same percentage holds for their health at the present time.

Whereas clinic found these children fell into 3 intellectual groupings, 8 dull, 18 normal, and 4 above average, we find now 4 groupings — 3 feebleminded, 11 dull, 13 normal, and 3 above average. There has been a marked intellectual deterioration in 10 cases.

The average I. Q. of the group as a whole is 92. It is interesting to see that the average I. Q. of the group of nine who have court records is 97. This might suggest that they have more initiative in going contrary to the accepted social customs and laws.

Regarding the types of problems which these children showed, we find that the greatest improvement occurs in their delinquent conduct. As has already been pointed out, an improvement along this line would be expected because otherwise the patient would be placed in some institution where this behavior could not take place. Next in order, the undesirable habits have decreased, then the physical symptoms, and last, as one would guess, the undesirable mental attitudes and reactions (which form more of an integral part of the personality than do the others.) The intellectual problems are still persistent, of course.

We find a very high correlation between the co-operation of individuals interested in the patients and improvement in these cases, and also between the intelligence of the children and their improvement. In this particular group there seemed to be no correlation between the child's age on admission and his condition on discharge from the clinic.

Twenty-four of the 30 children have improved in their social adjustment since they came for clinic treatment. Three children, whose cases were closed as unimproved, remain at this classification and three others have become more serious problems. (Two of these are in correctional institutions, and two have deteriorating intelligence quotients. The third, a post-encephalitic case, is becoming progressively worse and needs constant supervision.)

Discussion:

It is impossible to evaluate completely the role which the habit clinic has played in bringing about an adjustment in these thirty children. Those constitutional factors such as age, biological stock and intelligence are, of course, invariable as far as treatment is concerned. Complete success in treating children of inferior physical inheritance, of marked instability, and of retarded intelligence could not justifiably be expected. Clinic attempts, on the other hand, to attack other factors influencing the child's behavior. Those most obvious, probably, are environmental and a complete change in the environment is most helpful in many cases. In others, again, the expected improvement is lacking when more favorable circumstances have been brought about. The environment per se shows itself not to be as important as the child's attitude and reaction to it. This attitude and reaction to a situation and its importance to the child are what any child guidance clinic would do well to study. When we say a child comes from a poor home and poor neighborhood, we should mean that from the point of view of the child's responses, these are undesirable if they fail to satisfy his needs. Clinic treatment is of value only if it can re-direct the patient's instinctive trends and drives so that they do obtain satisfactory outlets. Such an instance has already been pointed out on page in the cases of two boys whose former mental conflicts, believed to have been causative factors in their anti-social behavior, have now produced a reaction of responsibility which has led to a better social adjustment. In other words, these delinquent children must be shown how to obtain the same satisfaction in socially acceptable behavior that they find in anti-social behavior.

However, the focal point toward which clinic must first direct its attention is, of course, that attitude of the patient and his parents toward the clinic. The parents must be in a mood receptive to instruction in child training. Without this, the best of advice is in itself useless. With the co-operation of the parents, clinic stands a very good chance of effecting a readjustment in the child. An evaluation of clinic's part would be possible if based on this necessary change in the child's attitude toward himself in relation to his environment and change in the parents' attitude toward the child and his problems. But such an evaluation is impossible if based only on the child's outwardly improved behavior, as any improvement may prove to be temporary if not associated with a changed attitude.

Time has undoubtedly been a factor in the better adjustment of the children in this study since new needs at each new stage of development demand satisfaction and new interests often involve a discarding of the former unsatisfied urges. Usually there are fewer restrictions on behavior as the child grows older and at the same time there is usually an increasing number of interests and outlets. In the cases of the 24 children who have improved in their social conduct, we find schools and teachers showing interest in 6 patients, and 2 have found outlets in church and scout activities. Seven have been in contact with some child placing agency, and 5 have been at some time or other, since clinic treatment, in the care of other child guidance agencies. All these agents are undoubtedly factors in the improvement of these children's behavior. Clinic contact may well have been the turning point in the lives of these children toward a better social adjustment, not only by virtue of its treatment but because it referred many of these cases to other agencies and gave these agencies the benefit of its study of the children.

It is most probable that without clinic treatment the comparatively favorable adjustment of these children would not have resulted. It can not be known, of course, what would have happened to them without clinic's attention. Among those children whose condition was unimproved at the time of the case closing and who now are getting along very well, it may well be that the contact was the determining factor which eventually produced a better social adjustment.

Also, in regard to the three who have become more serious problems, it is impossible to say whether this would have come to pass had they been under clinic's care longer. (All three were unco-operative and two of the children have deteriorating intelligence quotients).

The habit clinic aims to help the child equip himself with desirable habits, good personality traits, and mature mental attitudes, so that he may face adequately the responsibilities and problems that will come up in his life-time. The influence of the clinic's treatment is not limited to the direct and immediate effect upon the patient, but is far-reaching since it is an integral part of a broad educational process.

Thirty cases on which the study of delinquency in children was based:

	Number		Number
H. B.	1269	C. M.	374
R. B.	385	B. M.	1
S. B.	932	T. M.	1394
I. B.	1296	C. M.	250
V. C.	1044	W. O.	1282
H. C.	1384	M. P.	78
R. C.	298	A. R.	806
A. E.	1298	J. S.	401
P. F.	723	P. S.	8
H. G.	61	R. S.	90
H. H.	623	H. S.	1417
G. I.	203	M. T.	880
K. J.	1267	E. V.	1045
W. L.	1083	M. W.	1066
R. M.	586	W. W.	(Rutland State Clinic)

The chart beginning on page 24 considers the following children according to the numbers:

1. J. S.
2. E.
3. B.
4. S.
5. M.
6. I.
7. O.
8. J.
9. V.
10. S.
11. B.
12. G.
13. M.

Chart beginning on page 28 numbers the children as follows:

1. H.
2. R.
3. T.
4. F.
5. P. S.
6. W.
7. B.
8. W.
9. M.
10. P.
11. C.

Chart beginning on page 31 considers the following children:

1. M.
2. C.
3. B.
4. L.
5. C.
6. M.

BOOK REVIEW

HYDROTHERAPY IN HOSPTIALS FOR MENTAL DISEASES

By Rebekah Wright, M.D., 1932

pp. 396 — *Tudor Press, Boston*

This book fills a long-felt need. There have been very few books upon hydrotherapy, and most of them none too modern, but no work hitherto dealing with this extremely improtant form of treatment from the psychiatrist's point of view. Dr. Wright, by a lifetime of study and practice, for many years as hydrotherapeutist of the Massachusetts Department of Mental Diseases, has long since established her reputation as the outstanding American authority on psychiatric hydrotherapy.

The volume is divided into four sections — Part I, for Nurses, Instructors, and Hydrotherapists; Part II, for Hydrotherapists; Part III, for Physicians; Part IV, for Superintendents. A detailed account of the technique of each form of hydrotherapy is given, together with the physiology, indications and contra-indications; finally, the book is profusely illustrated, thus becoming even more helpful. The volume will stand for many years as the authoritative description and statement of the use of hydrotherapy in the treatment of mental disease.

Winfred Overholser, M.D.

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THE HOSPITAL TREATMENT OF MENTAL DISEASES

BY JAMES V. MAY, M. D.
Commissioner, Department of Mental Diseases

The old-time conception of the "insane asylum" was that of a place of detention for the unfortunate and afflicted, which lacked only one thing to make it complete — an inscription over the entrance, reading, "Abandon hope all ye who enter here". It must be admitted that there was some foundation for this point of view. In any event, the asylum, with its obsolete padded cells, underground dungeons, chains, and other horrors, has gone forever. It has been replaced by the highly specialized modern psychiatric hospital.

In view of this fact, a brief consideration of the organization of the mental hospital of today will, I think, bring about a much better understanding of its field of activities. In the first place, it is not a prison or "madhouse" surrounded by a high wall. Nor are the "inmates" any longer regarded as "lunatics". They are patients just as they would be in a general hospital, the only point of difference being that they are under treatment for mental diseases. The word "insanity" itself is now a legal concept only and has to do with the custody of persons who are incompetent either from a civil or a criminal point of view. Even when found "insane" by the Court, they are sent to a hospital for treatment and not locked up for the mere protection of society. This is accomplished by curing the disease which rendered the individual dangerous or, if that is not possible, insuring his care, as long as it may be necessary, by psychiatrists and trained nurses.

Having in mind, then, one of the modern hospitals such as are maintained by practically every State in the Union, it may be said that a newly admitted patient goes first to the reception ward or building. The older hospitals were usually built on the so-called "block plan" and consisted of a number of wards in one huge brick or stone structure or of smaller buildings connected by corridors, all under one roof. The tendency of the present day is to erect separate buildings, arranged in groups, and varying in capacity from fifty to several hundred patients.

The reception building furnishes accommodations for from one to two hundred and houses both men and women, in separate pavilions. It is under the direction of a senior physician, who has associated with him several other medical officers and an adequate nursing staff. The patient on admission is received by a doctor and goes directly with a head nurse to the admission ward. A brief initial examination shows the patient's condition, both mental and physical, at the time of entering the hospital and indicates the type of preliminary supervision and treatment which may be most applicable to the individual case. It also serves the purpose of determining whether or not the patient is suffering from any physical injuries or acute illnesses which require immediate attention, and whether there are suicidal or other mental trends which necessitate special nursing care. During a period of observation covering several weeks, a thorough mental and physical examination is made by the ward physicians and a history obtained from the patient's relatives. In the meanwhile, the case is referred to the social service department and the entire life history of the patient is covered by social workers detailed to look into the patient's childhood environment, school record, educational opportunities, occupational, social, and economic life, home surroundings, and the circumstances connected with the development of his mental disorder. All of this is preliminary to an extended consideration of the completed case at a meeting of the medical staff, when the diagnosis is determined and some plan of procedure outlined for the patient's treatment or disposition.

In the reception building we find rooms for hot and cold packs and continuous baths in immediate contact with the admission service. An elaborate hydrotherapeutic equipment is always available. Rooms for special occupational therapy classes are indispensable. There are examining rooms for the eye, ear, nose, and throat consultants. A resident dentist also has an office and laboratory in this building. These specialists all examine the patient shortly after his admission. A complete X-ray outfit is an essential part of the reception building equipment. A "physical therapy" department is now looked upon as being a necessary adjunct. Laboratory facilities are usually available, as is space for minor surgery. There are, of course, drug rooms, and various other utilities. Special attention should be called, perhaps, to the patients' library. Provision is usually made for barber shops and smoking rooms for the men and hairdressing rooms for the women. Visitors' rooms, in which the patients can confer with their relatives and friends, have been found to be of great value. The actual receiving wards have diet kitchens, and all patients eat in attractive dining rooms or are afforded special tray service. In the other wards of the reception building patients are allowed to go to a central dining room or cafeteria. The reception ward proper includes single rooms, and dormitories usually with not more than twelve beds. In short, everything necessary for the intensive study and treatment of the patient is to be found in the reception service and it is there that the hospital concentrates its efforts in attempting to bring about a restoration of the acute and recoverable cases. So far as possible, they should be returned to the community or to their homes without any contact with other parts of the hospital. It should be practicable to dispose thus of all cases needing a hospital residence of six months or less.

One of the most important departments of the hospital organization is the medical and surgical unit. Provision is made for the senile, arteriosclerotic, and feeble individuals who are not able to be up and about and who cannot go to a central dining room. Intensive nursing service is the first consideration in these wards.

There are, of course, buildings for the so-called "disturbed" cases. These include patients suffering from all forms of severe mental excitement with or without violence. In dealing with these individuals, window guards are essential to prevent the escape of those who would be dangerous to the community. The single rooms are now made soundproof as far as possible, for obvious reasons. Continuous baths are also essential to the treatment of these conditions and numerous packs are given. It is interesting to note that only approximately twelve per cent of the average daily hospital population is reported as actually noisy, and two and one-half per cent as violent. In analyzing the average daily percentage of the noisy, violent, and destructive cases, it will be observed that there is a striking difference between the sexes. Of the average daily population, about five per cent of the men and over seventeen per cent of the women were reported as noisy, .003 per cent of the men and 4.33 per cent of the women, as violent, and 1.78 per cent of the men and 13.82 per cent of the women, as destructive.

The more chronic cases, sometimes referred to as the "continued treatment group", are naturally housed in wards or buildings which are designed to care for those requiring an extended hospital residence, and they are made as comfortable as possible. Here a small percentage of the patients live in single rooms and the majority sleep in dormitories including from sixteen to twenty-four or forty-eight beds, varying with the needs of the situation.

An important unit is the group or buildings for the working and so-called "parole" patients. As a rule, these wards are unlocked and have no window guards. The patients come and go as they please during the daytime. They do the necessary work of the farms and gardens or are employed in the laundry, sewing room, paint shops, power house, carpenter and plumber shops, storehouse, etc. A majority of these patients enjoy the entire freedom of the grounds and are referred to as "parole" patients because they have given their word not to leave the hospital grounds without permission, and are looked upon as being entirely trustworthy, although they have not recovered. The ward "parole" should no longer be a part of any hospital vocabulary, as it is too closely associated with prison terminology.

There are also "convalescent" wards, buildings, or groups, for the quiet and orderly type of individuals whose recovery is fairly well established and who are expected to go back to their homes within a reasonable length of time, or who may remain in the hospital but no longer need intensive treatment. These buildings are intended for those persons whose mental condition is such that they can be given surroundings which are pleasanter and more homelike than it is possible to offer them in the other groups. Many of the wards are without window guards. They are attractively furnished, with commodious day rooms, and facilities for games of various kinds, as well as books, magazines, pianos, etc. It may be said incidentally that ward buildings of all types are equipped for radio reception.

Every large mental hospital has wards or pavilions for the segregation and special care of tuberculous patients. These are constructed especially for this purpose, being made largely of glass, with sun rooms and verandas providing a maximum of fresh air and ventilation. Those suffering from tuberculous conditions constitute approximately three and one-half per cent of the whole hospital population.

Many of the larger hospitals maintain farm colonies or groups. The buildings usually house from twenty to thirty patients each and furnish accommodations for those who are employed in working on the farms or in the gardens and are sent there for the benefits to be derived from an outdoor life. Aside from the institutions located in the large cities, every hospital cultivates from three hundred to one thousand acres of land or more. Much of the necessary work involved is done by patients. The farm and garden products are of tremendous value, of course, in relieving the monotony of the hospital dietary.

In the reception building, the group for the disturbed and violent cases, the medical and surgical service, and the tuberculosis wards, the patients are necessarily furnished with dining room accommodations in the buildings where they are housed. In the other wards and buildings patients go to central dining rooms or cafeterias. These dining rooms vary in capacity from fifty up to one thousand patients, although the tendency today is towards smaller units. The food service is supervised by experienced dietitians. There is a general dietary for the active, ablebodied individuals, another for the working patients, an entirely different one for the tuberculous and epileptic cases, and a special diet for the medical and surgical wards.

The State care of mental diseases does not stop with the immediate mental and physical needs of the individual. Every hospital is provided with chapels, and Protestant, Catholic, and Jewish religious services are held every week. No Roman Catholic patient ever dies without having received the last rites of his church, and every effort is made to comply with the requirements of all religious sects. Nor is the entertainment of patients neglected. They particularly enjoy the radio programs. Moving pictures are shown weekly in the assembly halls. From time to time, patients' dances are held for the benefit of those whose mental and physical health is such as to render it possible for them to attend. The hospitals, as a rule, have field day exercises during the summer time and baseball games are in order during that season. The Halloween and Christmas festivities are quite elaborate and the Fourth of July celebration occupies a very prominent place in the hospital calendar. Walking parties are a part of the daily routine.

During recent years no effort has been spared to make mental hospital surroundings attractive to the patients. This applies to the construction of the buildings and to their interior decoration. Landscape architecture has become an important specialty and the lawns and grounds now furnish as pleasant an environment as is possible. The hospitals are, of course, of all sizes, dependent on the needs of the occasion, and vary from one to several thousand beds. The maximum capacity of a Massachusetts hospital is approximately two thousand. The patients not able to pay for their own care are maintained by the State. Relatives legally liable for the support of patients are asked to contribute to their maintenance as far as they can. If they are able to pay as much as $30. or $40. per week, they are asked to remove the patient to a private hospital, where the rates vary from that amount up to many thousand dollars a year and where luxurious private suites and even individual houses are available. Although the standards of medical care are, as a rule, no higher, their patients can be given pleasanter surroundings and a dietary which the public institutions cannot afford.

The State hospitals, on account of their locations and surroundings are necessarily self-contained units and are equipped with almost everything that is to be found in a small village or town. The general supervision of the institution is vested in a Board of Trustees, seven in number and including at least two women. These are public-spirited individuals of recognized standing in the community, who are appointed directly by the Governor of the State for a definite term, and serve without compensation. The Medical Superintendent of the hospital is appointed by this Board. The purchasing agent, who handles practically all of the business details, is known as the Steward. The finances are in the immediate charge of a Treasurer, who is, of course, a bonded official. The executive offices are usually located in an administration building. There must, of course, be cold storage plants, power houses, laundries, bakeries, machine shops, electric light plants, railroad connections for the delivery of supplies, and, when not otherwise available, separate sewage systems, sewage disposal plants, and a fire department. The hospital water supply is naturally a matter of vital importance. It is worthy of note that medical and nursing care, heat, light, laundry, amusements and religious services, and everything else provided for the patients, costs the State government, as a rule, about one dollar per person per day. So much for the physical plant and general equipment of a mental hospital unit.

This does not cover all of the public health activities which have to do today with community mental hygiene. Nearly all of the large general hospitals have psychiatric wards or pavilions for the care of acute and recoverable mental disorders and for the observation of cases pending their removal to State or private establishments. A number of our larger universities now maintain psychiatric clinics or psychopathic hospitals, such as are affiliated with Harvard, Johns Hopkins the University of Michigan, the University of Iowa, etc. These are increasing constantly in number. New York maintains a psychiatric institute and hospital in New York City and a psychopathic hospital in Syracuse. The Pennsylvania Hospital in Philadelphia has recently opened an Institute for Mental Hygiene affiliated with the University of Pennsylvania. All of these are for the care of mild nervous and mental disorders not as a rule requiring a hospital residence, which they are not designed to furnish. They also play an important role in scientific research as well as the education of medical students and the community as a whole in matters pertaining to mental hygiene.

One of the most frequent questions which the hospital superintendent hears today is, "Does anyone ever get out of this place?" As a matter of fact, a study of approximately three thousand consecutive admissions to the Boston State Hospital, for instance, shows that nineteen per cent of all these cases were returned to their homes after thirty days or less in the hospital, and forty-five per cent within six months. Fifty-six per cent had a hospital residence of one year or less on discharge. It is interesting to note that the published reports of some of the most prominent general hospitals of this country show that their recovery rate is considerably lower than that of the average State hospital for mental diseases.

In view of this surprising fact, it would be well worth while to consider briefly the methods which have made these results possible. They are, of course, more or less dependent upon an exhaustive study of the history of the patient, his heredity, personality, education, and environment, as well as his economic, emotional, domestic, sexual, and social life. After a thorough psychiatric and physical examination, and a reasonable period of observation of the patient, a plan of therapeutic procedure is outlined and systematically pursued. The general health of the individual is given careful consideration and steps taken to remedy any physical disorders found to be present. This is a prerequisite to any improvement in the mental health of the individual. There are various types of mental disorders or psychoses which in their origin are entirely dependent upon physical diseases. These include the peculiar mental states following brain injuries, the confusion associated with arteriosclerosis, the psychoses accompanying chorea, encephalitis and other affections of the nervous system, the anxieties resulting from cardiac conditions, etc.

Every mental hospital has well-equipped operating rooms and a consulting and visiting staff including surgeons, internists and neurologists, as well as eye, ear, nose, and throat specialists. Resident dentists are always available Electrical, mechanical, and various other types of physical therapy have been extensively used during the last few years. These are used in the same way and for the same purposes for which they are employed in general hospitals. All of the facilities available to the general hospital must be employed in the study of physical diseases. Laboratory methods are as necessary here as they are in any field of medicine. Trained psychiatric nurses are essential to good results. Intensive courses of instruction in this highly specialized type of nursing are now required in the Massachusetts hospitals.

Under the general designation of psychotherapy we group together all of those efforts directed towards bringing the patient to a proper understanding of the origin and nature of his mental troubles and he is shown how this condition can be corrected, and encouraged to make intelligent efforts towards recovering his mental equilibrium. This means hours of painstaking study, supervision, and direction. In connection with this important field of therapeutic research some reference should be made to psychoanalysis, which, as Professor Campbell once said, is a sort of "scientific confessional". The Freudian mechanisms are now quite well known, even to the lay reader.

Bad habits are corrected as far as possible in all cases and adequate hours of sleep insured. Proper diet and physical exercises and recreations are prescribed. To overcome excitements, wet and dry packs, and continuous baths are employed with excellent results. It was found many years ago that the continuous submersion of the body in warm water had a very beneficial result in dealing with active excitements not readily amenable to any other form of therapy. Drugs are avoided as far as possible. Nowhere are more elaborate hydrotherapeutic establishments to be found than those available in the mental hospitals. They are equipped for hot air, electric light, vapor and saline baths, Sitz baths, circular rain, fan, jet, and Scotch douches, and various other forms of treatment. The continuous bath is given in tubs constructed for that purpose. The flow of water is controlled by temperature regulators, the prevention of scalding of the patient by hot water, being, of course, of vital importance. The patient usually lies in a hammock suspended in the tub and is completely submerged in water varying from 92 to 97 degrees F. and averaging about 96 degrees. This varies somewhat with the weather, being lower, for instance, during the heat of the summer. To insure continuous submersion, the patients is usually covered with a muslin or canvas sheet and remains in the bath for periods varying from five to eight hours, or even longer. The temperature of the water is taken at least every half hour and carefully recorded. The patient's temperature is also taken frequently and an ice pack is placed on his head. The patient is allowed water to drink at frequent intervals and is given nourishment regularly by the nurse. The hot air bath, which is quite well known, varies usually from 134 to 170 degrees F. and continues from five to ten minutes, preceded by a foot bath. It is valuable in eliminating toxic substances from the circulation. The patient is kept in the electric bath until good warmth is obtained and there is a slight, moderate, or profuse perspiration. It is preceded by a hot foot bath and is also used for eliminative purposes. Vapor baths are also useful in treating such conditions. They usually continue for not more than five to eight minutes. The needle spray, fan douche, jet douche, Scotch douche, and rain douche, are for the application of water locally under pressure. The method to be used is always prescribed by a physician.

Mechanical restraint is employed only in serious emergencies when it becomes necessary to protect the life of the individual, for surgical reasons or to prevent self-mutilation or homicidal assaults. This is always done on the prescription of a medical officer and on a written order setting forth the reasons therefor. The order must be renewed after a few hours if this form of treatment is to be continued. The restraint and seclusion of patients in mental hospitals is regulated by law in practically all states and is subject to the rigid and frequent inspection of central control agencies, such as the Department of Mental Hygiene in New York and the Department of Mental Diseases in Massachusetts. Practically all of the old-time methods of applying mechanical restraint have been abandoned. Many hospitals do not use it at all. "Seclusion", or the confinement of a patient to his room, behind locked doors, is also reportable and subject to regulation by central boards of control. It is sometimes necessary to keep a patient in his own room during brief periods of excitement. Oftentimes they can get along very nicely there without any restraint when they could commit serious assaults if allowed the freedom of the ward. In former times, when a physician was advised that some patient was noisy or violent, a hypodermic of morphine or hyoscine was often prescribed. This would sometimes render the patient unconscious for hours. Ward attendants took it upon thenselves to apply restraint without any supervision of any kinds, just because the patients were troublesome and annoyed them. All of these things have been done away with now and excitement is controlled almost entirely by hydrotherapeutic procedures.

Occupational therapy is one of the most valuable aids available in the treatment of mental cases. This is based more or less on the fundamental principle that the patient must be given something to do so that he can "forget his troubles" and "get his mind off himself". No other therapeutic procedure has been productive of such good results. There is nothing new about this. Commenting on this subject in 1810, in a communication addressed to the Managers of the Pennsylvania Hospital, Dr. Benjamin Rush, Professor of Medicine of the University of Pennsylvania, and the first eminent psychiatrist in this country, made the following interesting statement: "The advantages of labor have been evinced in foreign hospitals as well as our own, in a greater number of recoveries taking place, among that class of people who are employed in the ordinary work of the hospital, than in persons elevated by their rank in life above the obligations or necessity of labor". The employment of patients may be described as purely utilitarian or industrial and occupational. Before it was discovered that the employment of patients had a therapeutic value, their services were utilized because it was necessary to help keep up the farms, gardens and grounds, handle the coal and ashes, make brushes, brooms, mops, etc., and do housework. The industrial work covers the departments of the hospital that are carried on because they are essential to the maintenance of the institution, although the work done there has the same therapeutic value as that assigned to any occupational activity. The purely occupational therapy, which should be entirely eliminated from this category, is done solely because of its benefit to the patients, without any reference to the monetary value of the product of their labors. In all cases where it is possible, patients are sent to occupational therapy class rooms for instruction. The men are taught woodwork, weaving of toweling and rugs, rake knitting, basketry, painting, cord making, leather work, and the manufacture of toys, etc. The women occupy themselves with weaving, sewing, needlework of all kinds, rug making, knitting, crocheting, designing, and basketry. Brass work, clay modeling, and making of jewelry of various kinds have been extensively employed. The benefits of this system, however, do not end here. The major efforts of the occupational therapist are directed towards the employment of the deteriorated class of patients who cannot leave the wards, and this constitutes their greatest field of usefulness. Especial attention is given to the classes conducted in the buildings for the disturbed and violent cases. Systematic and carefully graded occupational and recreational procedures have proved to be of great value in the re-education of apparently hopeless individuals presumably in the terminal stages of dementia praecox. Many of these have improved to such an extent as to be able to return to their homes and resume their occupations.

One of the most spectacular, perhaps, of the recent contributions to medicine by modern psychiatry is the treatment of various forms of brain syphilis, which is responsible for something like ten per cent of the hospital admissions. Surprising results have been brought about by such simple procedures as the artificial induction of high temperatures for a very brief period of time. This is accomplished by inoculating the patient with malaria, a disease which can easily be controlled by the administration of quinine when the proper elevation in temperature has been reached. Equally good results are obtained by diathermy. In this procedure the patients is subjected to a high frequency electric current for a very brief period. This, of course, must be done with extreme care. Salvarsan or some other arsenical preparation is usually given intravenously at the same time on account of its direct action on the organism causing syphilis. General paralysis", so-called — a form of syphilis of the brain — which has been looked upon for centuries as hopeless in its outcome, is now amenable to such treatments, and many cases are restored to a useful life, sometimes for years.

In about twenty per cent of the cases admitted, an extended hospital residence is found necessary to provide properly for the needs of the patients who for various reasons are not able to resume their former places in the community. In the case of those whose mental condition is such, either temporarily or permanently, as to render them dangerous to others, and who are unfit to be at large, legal authority for their detention is unavoidable, hence the so-called "court commitments". In some instances, persons who are incompetent on account of mental disorders — senile forms, for instance — have to be committed to prevent them from dissipating their own property or that of others. Such steps are necessary to prevent their making unwise marriages, improper legal conveyances, or entering into other civil contracts for which they are not responsible. As far as possible, the voluntary application of the patient for treatment, the necessity of which he appreciates himself, is one of the paramount considerations of the psychiatry of the day. Contrary to the general opinion, the great problem of the executive in the mental hospitals, on account of overcrowding, lack of space, etc., is not how to keep patients in, but how to get them out of the institution. For the protection of the community, hospital authorities must, however, be in a position to refuse the release of patients who are a menace to the lives or welfare of others.

It should be remembered that in many instances mental diseases cannot be treated at home under any circumstances. In the severe emotional depressions, referred to formerly as "melancholia", there is always a danger of suicide. These cases have to be watched very often throughout every hour of the day and night. Many of the depressed and stuporous patients for various reasons refuse to eat and forced feeding has to be employed. When the patient refuses to take a sufficient amount of nourishment or none at all, every effort is made to induce him to eat. Very often it is possible to get along for a time by placing food in his mouth with a spoon. When this fails, it is necessary to resort to artificial or forced feeding. Such cases can be treated properly only in the wards of the hospital. It is often very difficult to get the relatives and families of the patients to understand this.

A great deal has been said about the mistreatment and abuse of patients in mental hospitals. There have been innumerable complaints from time to time. In nine instances out of ten, these are based entirely on the delusional ideas of patients, whose relatives and friends often accept their statements without question. Every such charge is thoroughly investigated. If there is any doubt whatever as to the way in which a patient has been treated by a nurse, the employee is discharged. If a patient is injured, the nurse is placed under arrest and charged with assault. Employees are not allowed to strike a patient even in defending themselves against vicious attacks. They are expected to call for help. Every black eye, bruise, discoloration, or injury of any kind that is found on a patient is reported in writing and is investigated by a supervisor and finally by the physician in charge of the service. A written report of this investigation becomes a part of the records of the hospital. No attempt is ever made to conceal an assault on a patient. When one does occur, the patient's relatives are notified and the employee responsible is held to a strict accountability. The hospital never, under any circumstances, makes any effort to justify, defend or cover up the abuse of patients.

The responsibility of the hospital does not end when the patients are allowed to go home. They are, as a rule, kept under supervision for not less than a year before they are discharged. During this time they make frequent visits to the hospital for further observation. Home surroundings and the employment of these patients are followed up and supervised by the social service staff of the hospital. Massachusetts is instituting occupational therapy centers in the community, where patients can be given a temporary residence and occupation at a time when they are well enough to leave the wards of the hospital but are not as yet sufficiently improved to return to their former occupation and environment. Out-patient clinics are maintained by practically every State hospital. This affords those who have been allowed to go home on visit an opportunity to obtain individual medical advice when it is needed without returning to the hospital. Parents can bring their children for examination and for advice relative to conduct disorders, psychoneuroses, and frank psychoses. The number of other persons who wish to consult specialists on matters pertaining to mental hygiene in these clinics is surprising. The extramural responsibilities and activities of the State hospitals have became a factor of great importance in the mental welfare of the community.

In view of all of these considerations, a more general understanding of the importance of mental diseases as a public health problem, on the part of the medical and legal professions, sociologists, educators, legislators, and the general public, is much to be desired.

THE USE OF STATE HOSPITALS AS TRAINING CENTERS FOR PSYCHIATRIC SOCIAL WORKERS

By Hannah Curtis, *Director of Social Service, Department of Mental Diseases,* and Helen M. Crockett, *Head Social Worker, Worcester State Hospital.*

The use of Massachusetts state hospitals as training centers for psychiatric social work first started in 1917 at the Boston Psychopathic Hospital when the Smith College School for Social Work placed several students at that institution for training.

At that time, there appeared to be a definite need for social workers who had some knowledge of psychiatry or experience in work with mental patients due to the large number of war service men who were suffering from mental and nervous disorders resultant upon war activities. Trained or experienced social workers in the field of psychiatry were exceedingly scarce — hence the need of an emergency measure which would insure more adequate psychiatric treatment of war-time victims. It was at this time that Smith College opened its School for Social Work apparently for the purpose of meeting this need.

Fortunately, the Armistice was instrumental in greatly modifying the need of training specialists to care for mental victims of the war. In proportion as Government facilities were created for the care and treatment of these patients, the need of training psychiatric social workers for this particular service appeared gradually to diminish but not before the potential value of such service had been noted by many progressive psychiatrists who were actively engaged in the treatment of mental patients, particularly in institutions.

Partly as an outgrowth of psychiatric service for war victims and partly as a result of the social work in a few local state hospitals that had been operating quietly since 1913, the need for trained social workers in institutions became increasingly apparent and desirable. This field was comparatively new. Social workers who had received training in psychiatric service were conspicuous by their scarcity. In addition to these factors, social work with mental patients in institutions was not at all popular and had very little appeal to student or trained social workers. Patients committed to institutions were largely regarded by social agencies as being settled for life; therefore, more or less hopeless insofar as social work was concerned. (Although somewhat prevalent today, this attitude on the part of many agencies has been greatly modified.)

In 1918, under Dr. George M. Kline's administration, social service was definitely written into the policy of the Department of Mental Diseases with the hope that eventually every institution in the State would have a well organized social service department. However, a very real and definite problem confronted us at that time in that social workers who were interested in state hospital work were very few and practically unobtainable. Salaries were comparatively low, opportunities for social case work in institutions were quite limited and institution residence was not considered desirable.

For about ten years, from 1918 to 1928, the number of students placed by Smith College in our institutions fluctuated and comparatively few graduate social workers entered State service. In the main, there appeared to be a decided preference for other fields that were rapidly opening up under the Mental Hygiene movement. In spite of this fact, however, the requests for social workers on the part of institution superintendents increased and the demand for properly equipped social workers by far exceeded the supply. Schools of social work were not meeting our needs in this respect. After exhausting all the existing resources to secure social workers for our service, it was believed to be necessary to develop our own resources by extending the student training work already established by the Smith College School for Social Work. This was intended merely as an aid in securing a more adequate personnel. It was decided in the fall of 1928 to establish a course of training under the direction of the Department of Mental Diseases and the cooperation of the Simmons College School of Social Work. The Department course includes nine months of training in a state hospital with a specified amount of theoretical training at the Simmons College School of Social Work.

This movement, was, of course, not ideal and was created as an emergency measure for the benefit of our own institutions. Up to the present time, it has been very successful in the main. A large number of applications have been received from other states and in the large majority of cases the students have been college bred. Practically all our former students are now located in positions of psychiatric social work, mainly in public institutions. Because the need for which the course was created no longer exists and because the schools of social work are now supplying our needs in regard to personnel, the course will be discontinued after this year. Other reasons for this decision refer to the State's economy measures which do not permit of any extension of social work in institutions. In other words, there are no available positions and no immediate prospects for positions in this Department.

Since 1917, over 340 social workers have received training in our institutions. Of these, 81 were from the Smith College School for Social Work, 127 from the Simmons College School of Social Work and 30 were connected with the Department training course. The remaining 109 persons have been chosen from various sources and for limited periods.

The selection of hospital training centers was based upon their location and the equipment required for student training. Requirements for training include a well organized and properly functioning social service department with a head social worker who has teaching ability, and staff conferences, seminars or lecture courses in psychiatry to which students are eligible. The psychiatric staff must be alert, progressive, and interested in research. An acute service with a fairly large admission rate is necessary to assure the Student's following a number of cases through every stage of progress from the acute psychosis to social recovery. It is desirable that the hospital be located near a large city or serve an urban community, that the student may have some practice in cooperating with other social agencies.

The motives for accepting students for training must be altruistic. That hospital which seeks students only for the service they render is doomed to disappointment. Either the student will fail to get the necessary training and become too dissatisfied to continue, or the hospital in doing a conscientious piece of work will discover the expense of training to be greater than it anticipated. Any training center must expect to give time and effort and even to make certain sacrifices that the student may grow in psychiatric wisdom and emotional stature. It must be willing to put up with certain administrative difficulties arising out of the lack of skill and the inexperience of the student. It must be prepared on rare occasions to have its prestige in the community or its working relationships with other agencies threatened. The student often comes from another community, knowing nothing of the laws of the state and nothing of hospital customs and regulations. With little experience in dealing with people, she is often put in a position of having to assume responsibility. If she makes mistakes, the hospital must take the consequences.

Not every type of student should be trained in a State Hospital. Besides intelligence and industry, it is essential that the student have a pleasing personality and great emotional maturity, if she is to be personally adequate to work with psychotic patients. Since most of our patients are adults, it is more difficult to trace out the beginnings of their personality make-up and more difficult to understand the mechanisms at work; therefore more tact, more skill, and more insight are required to bring out material the family have long forgotten. Whereas the behavior problems of children are not foreign to a student's past experience, the psychoses usually spring out of a more extreme social situation. When the student sees a repetition of her own adolescent problems resulting in a major personality disturbance, she must have stability to resist morbid fears and sufficient insight into her own personality problems to be understanding and objective. Any student who takes on the symptoms of all the patients she meets or who spends many hours trying to diagnose her mother's depressions and understand her father's temper becomes unfitted for any subtle type of service to the patients. Therefore only a well-adjusted student whose major personality problems are already solved is suited for training in a state hospital.

If the students are well chosen, the hospital will profit by the amount and quality of case work they produce, providing they are carefully trained and remain for a sufficiently long period. The gain in work completed is not so great, however, as the uninitiated would suppose. Students received maintenance but no salaries. It appears to be the consensus of opinion that after the first three months, students become increasingly valuable to the hospital, their work more than compensating for their maintenance. If the student remains for nine months, a greater amount of work can be carried by the social service department having students than is otherwise possible.

Of greatest value to the hospital are the by-products of student training. A new group coming in each year after a period of theoretical training keep the regular staff in touch with the newest social theory, and stimulate them to read, to experiment with new methods and to make their own cases worthy to serve as models. To answer the student's questions the experienced worker must articulate her own philosophy of case work built out of years of experience. It is a source of great satisfaction and inspiration to those responsible for a student's growth to watch her develop in her personality, her professional attitudes, and her case work skills. Visits of representatives of the schools of social work are also a stimulus to the staff.

The psychiatrist is prevented from crystallizing in his attitudes because a questioning student forces him to think along lines otherwise unnecessary or impractical and to be more exact in his statements than his ordinary duties would require. For example, a student reports that one of her patients in the community is beginning to get the idea that people are looking at her when she is alone, and seeks his help in her social treatment. As he speaks of the possibilities if tension increases, he finds himself going into more detail than he had intended, and is stimulated to think out all the implications carefully step by step. Such conferences lead the psychiatrist to a fuller understanding of the social worker's problems, and help the student to gain an appreciation of the application of psychiatric concepts to her own field.

Certain of the younger students have been quite successful in meeting patients near their own age on a basis of equality, and leading them from a feeling of antagonism to a real appreciation of the psychiatrist. They have been able to bridge the gap between patient and doctor when there was apparently no other means of doing so.

Another by-product of student training is a gradually increasing group of what might be called alumni of the hospital, who look back with pride to their period of interneship, who maintain a friendly relationship with the hospital by occasional visits, and are ready to serve the hospital in their own communities as opportunity arises. As these alumni act as missionaries of the gospel of good mental health to the communities in which they work, they multiply the influence of the hospital many times. Those working in general agencies serve better because of their understanding of the nature of mental hospitals, and of the problems patients and their families have to face. Last but not least, the hospital profits by the higher type of personnel attracted to it because of its educational program. The "alumni" group becomes a reservoir for filling vacancies within the state department.

To the student the hospital offers in return certain experiences and opportunities to be found in no other type of agency. It offers an infinite variety of case material with every type of social problem and almost every case work process except relief giving represented. There are urban cases known to every social agency, and rural cases whose limited social resources present a challenge to the student's ingenuity. There are intensive cases on which social treatment proceeds in a thorough and leisurely manner, giving the student confidence and security. There are also cases of patients sent for a brief observation period, the necessity for completing the investigation and finding the solution for the problems within a limited time preparing the student for the pressure she is certain to experience in a paid position.

In the psychoses, mental mechanisms may be seen in their wildest abnormalities, and all varieties of personality and behavior problems are met in the families of the patients. In seeing the end result of any maladjustment and tracing out its beginnings in childhood, the student gets a chronological view of each situation that is an invaluable basic training for any type of social work. Because she meets the patient out of his environment with home ties lopped off, she is able to see his personality as distinct from that of his family. The family responds to social treatment more readily when some of the tension is relieved by the patient's absence. In the large staff of a state hospital the many different points of view represented in sociology, neurology, endocrinology, and psychoanalysis prevent the student from becoming one sided in her approach to personality problems.

Other values of hospital training are inherent in institutional life. Because the student sees a patient, not merely once a week at a staff meeting or clinic, but daily as he serves her in the cafeteria or dances with her at the weekly dances, he ceases to become a "case"; he is a person. She is not only applying at a staff meeting principles gained from a background of scientific knowledge; she is living in the midst of those principles, so that they become a part of the fibre of her being. She learns to apply her theoretical training to the practical situation but the theory is often modified by the experience.

The state hospital, like no other type of training center, offers opportunity for learning the art of cooperation. The student finds herself a part of a complex organization, each department of which is independent in making its own decisions and plans and yet must always consider their effect on every other department. The student learns to submit to the decision of the group, to give up a cherished plan because of its effect upon another department, and, perhaps, to take orders from someone with less formal education and more practical experience. She learns to adjust herself to conditions that cannot be changed, and to get along with all types of people.

While living in an institution she looks out upon the community and observes it objectively, just as a traveler abroad frequently gains a new understanding of his native land by seeing it from a distance. Although there are disadvantages to institutional life, for the training period, it is a valuable experience.

The future efficiency and value of social work in institutions is more or less dependent upon the training that students are receiving today. If it be true, as present tendencies appear to indicate, that the state hospital of the future is to be the community center for the various activities connected with psychiatric service, then the necessity for training social workers in mental hospitals is obviously apparent. The increasing number of college bred young women who are now seeking institution training leads one to believe that good professional social work may be easily attainable, providing institutions are sufficiently interested to build up an equipment for training in psychiatric social work.

Emphasis should be placed upon the importance of organized student training under central guidance or supervision. Perhaps in no other way can uniformity be better secured and standards maintained. In every case student training work should be carried on in very close cooperation with the recognized schools of social work, in fact the very best kind of student training in psychiatric social service is that given by schools of social work that place students in our institutions for a nine months period of training.

THE ADOLESCENT IN SCHOOL

Olive A. Cooper, M. D.
Division of Mental Hygiene, Department of Mental Diseases

There is a great deal of concern existing among teachers today regarding the adolescent and his problems as they appear both in the classroom and outside. This paper is an expression of a psychiatrist's point of view toward some of these very problems, and the role the school plays in the life of the adolescent.

There are those who still believe that the period of adolescence is distinctly different from the period that precedes it, that it is predestined to be filled with emotional stress and that behavior problems at this time are inevitable. This may be true in a few cases, but fortunately the majority of individuals progress through this stage of their development without any striking symptoms of maladjustment.

Too often one is apt to blame adolescence as the cause for problems which in reality have been existent in the individual since the preschool period. It is felt that if a child starts out in life well adjusted, one need not fear the development of alarming problems in adolescence. It is fitting to say here, however, that adolescence seems to be the crucial point in a child's development which serves as the acid test for his previous training.

Adolescence, after all, does not warrant the alarm and emphasis many are prone to put upon it. This is a normal process of growing up; we all go through it and for the most part it does not necessitate any highly developed skill or specialization on the part of teachers, but rather common sense coupled with understanding and sympathy.

The need for proper educational and vocational guidance during adolescence cannot be over-emphasized. The causes for scholastic failure at this time are multiple; many may be attributed to the home, some to the school and still others to the inherent make up of the child.

Not infrequently, parents who have failed to achieve their own youthful ambitions look forward to seeing them realized in their children. This may work out successfully in some cases, but more often it fails. When children are expected to relive their parents' lives, it is usually done without any appreciation of the child's desires, his needs, his intellectual equipment and above all else an understanding as to what is best for him. A manually minded child may be forced, because of parental desires, into an academic field which he is utterly incapable of grasping — failure here is inevitable. The pressure to live up to the family's expectations, coupled with repeated failure, causes mental turmoil that often expresses itself in various forms of undesirable behavior, which not only may impede his progress in the classroom, but is also distinctly handicapping to the natural development of the child. There is no sadder picture than that of a person who, because of parental ambitions, has chosen a field in which he cannot cope because of insufficient intellectual equipment.

Jack C., a boy of thirteen had been referred because of poor school work. He had progressed only as far as the fourth grade which he was repeating and even there was unable to do the grade work satisfactorily.

The psychologist graded him as having low normal intelligence.

He was an only child with an over-solicitous, neurotic mother who attributed all difficulties to his early infantile feeding problems. She elaborated on them to the extent that if one were to hear only her story and could not see the boy, one would picture him as a child who was in a very precarious physical condition when, as a matter of fact, such was not the case since Jack did not present any physical problems.

His father left England for this country at the age of nine and had worked since landing. He was a tense, irritable person who refused to listen to any opinions that did not coincide with his own. He boasted of the fact that he had been able to secure a good position with an insurance company and had succeeded there although competing with men who had college educations.

Both parents had high aims and ambitions for their boy, foremost of which was that he should go to college. Mrs. C. was resolute in this plan since her sister's son, at the age of seventeen, was already in his freshman year of college, and another relative's daughter was about to graduate. Her one opportunity of justifying her position in the eyes of her family was to have her son finish college and carry on the family standard, and all conversation and thought was in this direction. The father supported her in the plan since he already had carefully built up a picture in which he and his son would head an insurance company of their own organization. The major point here which they had entirely overlooked was this boy's inferior intelligence, a fact which they had refused to face; even though the school had earlier tried to point it out to them, still they persisted in driving the boy toward a field which he was incapable of grasping. Continued failure was interpreted by the mother as evidence of his physical frailty and produced much coddling and over-protection from her. From the father it brought harsh criticism of the school and its methods, and severe reprimanding of the boy for his apparent lack of application and lack of approach to the goal on which both parents were concentrating. The boy's chief interest, in wood work, was ridiculed and belittled by his parents and labelled a cause for his failure in academic subjects.

It took many interviews to enable these parents to face the situation frankly and to get them to accept it as it was, rather than as they would like to have had it. A modified program was arranged for Jack in which emphasis was put on manual training and today we find him passing in his scholastic work and making real headway in his vocational training course.

Now what are some of the more common mental health problems the teacher is called upon to solve? The commonest is perhaps the child who is so popularly described as one who "does not get on in his studies." The causes for this may be multiple, but the result is always the same — a sense of failure in the child and permanent inefficiency if the situation continues. He cannot avoid developing a feeling of inadequacy, which may stay with him long after his school days are over. Obviously, then, it becomes the school's problem to ascertain, if possible, the reasons for his failure. This should be done before the situation has progressed to the point where he has been too long in an atmosphere of discouragement.

A child's failure is explainable in some cases by incorrect placement in the grade. He may be doing work beneath his capacity, or the converse of this may be true in that he is placed beyond his capacity. In the former situation, he is bored, lacks interest, is inclined to become annoyed or even antagonistic, to the point where he creates the impression of a dull and stupid child — demotion as a solution, invariably aggravates an already difficult situation. Psychological investigation has gone a long way toward correcting errors of this kind, and suitable placement on a higher level tends to effect a readjustment. In cases where the pupil is placed beyond his ability, the effect of repeated failure may manifest itself in numerous forms, ranging from sheer indifference to glaring types of troublesome behavior. Here, as in the previous situations, psychological study, followed by proper placement in a grade which is in accordance with his intellectual equipment, as a rule suffices to produce a better adjustment (Case of F. D.)

Emotional disturbances are capable of producing failure in school work. These may be numerous and complex, and determining their source is not a simple undertaking. There are those emotional strains operating in the home and in the school, and still others of varying sorts quite apart from his environment, yet powerful in their influence on the emotional life of the child.—B. P.)

Then, we find innumerable subtle home difficulties that react destructively on the child's school adjustment being manifest either in scholastic failure, or perhaps misconduct, or both. It sometimes happens the particular behavior problem has little to do with the apparent cause, and our only hope of assisting him lies in our ability to find out what the real causation is in each individual case. An instance of this was seen in the insubordinate, incorrigible, adolescent boy who bitterly resented any form of school authority. Investigation disclosed that he had been subjected in his home to brutal punishments at the hands of a fiery tempered father. The boy's resentful attitude and refusal to subordinate was simply an expression of protest against authority which had its origin in the home. The following case is one of many like it, and serves to illustrate the manner in which emotional factors in the home operate to the deteriment of the child's school progress. It also points out the dangers of what we term projection.

Albert., a boy of sixteen, was referred because of complete failure in his second year of high school. Both the home and school had observed not only his increasing failure but his dislike for school and glaring indifference to the fact that he was not passing.

Intellectually, Albert was superior, and on the basis of this one would consider him to be of college material. What then was the cause of his failure?

He was an attractive, well mannered boy, delightful to meet and eager to discuss his problem. Frankly admitted he was not passing and was not upset by it. Indifference toward school work was his most outstanding trait.

Albert's problems were easy to understand when one had an opportunity to glimpse at his family background. His father was a successful business man, a college graduate who, although normally disappointed because of his son's poor school adjustment, felt confident that if Albert once found himself he would advance; and it did not matter greatly to the father whether this was in the college or in the vocational field, just as long as his son was happy and succeeded.

His mother was the crux of the situation. She was uneducated, had gone as far as the sixth grade and had always felt inferior. She had never realized success in any of her endeavors. Socially she was inadequate, given to boastfulness, pretentiousness and childish patronizing toward her friends. With her husband, her feeling of insecurity was exhibited in her extreme outbursts of temper and she was continually confronting him with regrets about her marriage, saying that her family background made her eligible to a better matrimonial situation.

In her relationship with Albert she was fault finding, critical and unceasing in her nagging about school matters. She never missed an opportunity to question him about the days' work at school and was quite unreasonable in her punishment for his slightest violation. Her favorite form of penalizing was to send him to his room to study. Her only conversation with him related to his school work, his future college career and why he owed it to her to make a brilliant scholastic record, at the same time stressing many fancied supreme sacrifices she was making in his behalf.

Here was a situation in which a maladjusted mother was seeking satisfaction for the things she had missed in her own life and hoped to find them in her son's. He represented to her an opportunity in which she might obtain culture, education and social position, all of which she had been deprived. Her eagerness to relive her life in his, and her over-emphasis of scholastic achievement to the exclusion of everything else, had built up in him a resistance against school and a dislike and lack of interest in anything of a scholastic nature. Here was a boy with promise whose abilities had been dissipated by a non-understanding mother who sought expression at the expense of her son's future. Albert has been placed out of the home, in a progressive school, and on last report was doing very well.[1]

The teacher-child relationship is of utmost importance during adolescence. There is probably no phase of the child's life when a teacher's understanding and insight may serve a more useful purpose than in adolescence. If she is to understand him, she must understand the position he is in both as regards his inherent make up and the various environmental influences to which he has been subjected. It follows logically, then, that if she is to achieve this end, she herself must be a well adjusted individual, free from emotional stress, and unbiased in her attitude toward him.

It not infrequently happens that the teacher approaches the moulding of the pupils' personality unprepared for her task. Her mind is crowded with the duties of pedagogy, her primary interest is in teaching subjects, and her attention has been focused on the approved methods of presenting subject matter. Consequently, she knows comparatively little about the mental hygiene of the child and his psychological needs. Whatever fundamental principles of mental hygiene she may have acquired in her course of training, she has had little opportunity to apply practically. Then too, she may have unsolved personal problems of her own and various prejudices, in which case she comes to the classroom incapable of coping with the problems she meets in her pupils and fails to see that here is her golden chance to participate in the task of guiding the personalities that have been entrusted to her. She is so consumed with her efforts to impart to the pupils in a limited time a prescribed amount of scholastic material that she unavoidably fails in her opportunity to aid in the reconstruction of warped personalities.[2]

A sincere endeavor is being made today by school administrators to select teachers with well adjusted personalities, realizing that this is one of the major qualifications for one who would maintain the mental health of the classroom and competently direct the all around development of the personalities there.

The school situation of today is quite different from that of yesterday in that the main objective is development of the child as a whole, and its aim is to prepare him in such a way that he not only will be equipped with scholastic subjects but will also have a well rounded out and effective personality with which he may later meet life harmoniously and successfully. Progress has been definitely marked by the school's attempt to teach and direct the pupil, rather than to teach the subject.

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[1] K. S.

[2] M. H.

No treatise of the adolescent in school would be complete without mention of the matter of discipline and our newer concept of it. Although once a popular subject in educational literature, we now rarely, if ever, see more than a casual mention of it. The reason for its present unpopularity is doubtlessly traceable to its traditional connotation, namely, punishment, fear and subsequent failure.

Discussions with teachers, particularly new teachers, reveal that one of the greatest difficulties they encounter is that of maintaining discipline. Now the fault may not rest either with the teacher or the pupils but largely in the fact that the meaning of discipline is not understood.

The traditional concept of discipline advocated severe measures of control by force and coercion, on the assumption that the child would eventually learn to submit to authority and acquire a pattern of behavior that would not only facilitate his learning but would also aid him in his adult adjustment. In this case the teacher was rated as the best disciplinarian who could most efficiently maintain in the classroom an ironclad militarism. She believed that a pupil could not learn unless he was absolutely quiet and that he must be completely passive before it was possible (figuratively speaking) to pump into him textbook information. Motivation was a matter of threatening him with punishment — pupil interest was of no significance in the process of learning —what his interests were or what he wanted to do were virtually ignored. Discipline was accepted by the teacher as a pre-requisite of teaching and as an end in itself. Teaching based on this premise presupposes the likelihood of becoming so involved in the mechanical and rigorous details of the process as to blur one's perspective toward the development of the child as a whole. We all know that the most important factor in the learning process is the attitude of the pupil. If we can supply him with the urge, the drive and the purpose to learn, we have the battle half won. On the other hand, if the pupil's mind is set against the task, our chances for success are slight.

The newer concept of discipline maintains that in order to achieve the goal, the child should live through those experiences that produce right ways of thinking, proper attitudes, social cooperation and self reliance. He is going to acquire them only by giving him an opportunity to practice them in his everyday activities, unhampered by antiquated disciplinary methods. This newer concept holds wide acceptance, in spite of the uneasiness among those who feel that the youth of today is being given too much freedom, both at home and at school.

Now this does not imply laxity in teaching. Children are not permitted to follow out their whims and neither are they allowed to day dream and dissipate potential abilities. The teacher still bears the responsibility for directing these toward established objectives, avoiding any possibilities of blocking the pathway to these objectives by imposing unhealthy restrictions which may thwart these drives and build up antagonism against the very goals which she is seeking. These ends are reached not by berating the child or imploring him for good behavior but rather by providing him with challenging tasks which will utilize his ability and direct it along constructive channels.

Discipline, as we understand it today, means self control by the pupils and not teacher contol of him. The best disciplined school is usually the one which shows the least outward evidence of the usual mechanics of discipline and is brought about by a mutual understanding between the teacher and the pupils of the kind of conduct that is necessary if the group is to succeed in its undertaking. To be genuinely educative, discipline must be positive and constructive rather than negative and repressive, and must be directed toward inspiring wholesome behavior rather than curing misconduct.

In conclusion, let me say that one may expect to find the adolescent problems as varied in type as there are pupils in the schools. It may vary from the well adapted child, intellectually capable, well socialized and succeeding in an all around adjustment, requesting very little from the school other than stimulations and regular advantages which the school has to offer, to the child with poor intelligence, delinquent make up and further handicapped by a destructive home environment. In the latter case, the school can contribute by giving intelligent recognition to the individual, appreciating his inferior intelligence and understanding his particular emotional difficulties, his interests and special aptitudes and by providing him with opportunities from which he is going to get satisfaction and suitable training. This may necessitate help from a child guidance clinic.

One should bear in mind that every adolescent is an individual and cannot be guided by a set of fixed rules. Every teacher should be equipped with an understanding and sympathetic appreciation of adolescent psychology. So many of the problems of the classroom and those common to adolescence develop out of a lack of understanding of the peculiarities and even fairly typical behavior of the adolescent. No school or system of education is stronger than its teachers. It follows, then, that the ability of a school to contribute wisely to these constantly arising problems cannot exceed beyond the capacities or limitations of the teachers.

STATE HOSPITAL SOCIAL WORK IN MASSACHUSETTS

Mary W. Killam
Head Social Worker, Metropolitan State Hospital

While attending a School for Social Work a few years ago I encountered what seemed to me a relic of the old idea of state hospitals as being extremely conservative and interested only in the custodial care of the mentally ill. Upon hearing that I was going into state hospital work well-meaning friends said somewhat deprecatingly, "But be careful — don't stay in that work too long; don't get into a rut." Having stayed in the work every since, in spite of their advice, I have been constantly more and more impressed with the new achievements of state hospitals as leaders in all mental hygiene activies and the roles they are taking as community centers of mental health. That the custodial care of the mentally ill is no longer the primary preoccupation of hospitals in Massachusetts is nowhere more clearly shown than in the variety of activities carried on by hospital social workers, looking toward treatment and eventual recovery of as many patients as possible, building up of community and clinic activities, preventive and educational efforts.

The work being done by hospital workers may be divided into four main parts. Namely: work done directly with hospital patients, clinic and community social work, social service for hospital employees, and miscellaneous functions pertaining largely to the professional standing of the worker and including educational and research projects.

Work with Hospital Patients

In service dealing directly with the hospital patient an adequate medical-social history furnishes the logical beginning. Right here a change in attitude may be pointed out, as the history is no longer considered of diagnostic value only, but is looked upon as containing possible clues to treatment both in the hospital and in the later community adjustment. This means the inclusion of social and medical data which may not be necessary for diagnosis but which may be of great value when questions come up pertaining to the patient's placement in hospital industry, an obscure physical condition, family problems needing attention before the patient's release, or the likelihood of successful adjustment in the environment from which he was committed. In a few hospitals an effort is made to secure a social history on every patient admitted, but in general history-taking is on a selective basis.

Social investigations made by the hospital social worker are of many types, pertaining to such subjects as home conditions, finances, employment possibilities, guardianship or other legal matters, location of or contacting relatives, and so on. The importance of a careful home investigation becomes greater as the patient's length of hospital residence increases, owing to the changes that are likely to have taken place in the home both physically and psychologically, since the patient was first committed. In many instances the social worker finds in the course of these investigations factors which need altering if the patient is to have a fair chance at successful adjustment. Otherwise the patient may be released into the identical setting where his difficulties arose with the additional burdens of loss of caste among friends and relatives, lack of self-confidence, and perhaps peculiarities in behavior which are remnants of the acute psychotic episode. This work requires specialized psychiatric training and understanding of mental patients, but the hospital social worker must also be prepared to carry on the usual investigations common to all social case work. Thus she keeps in touch with community resources in order to secure financial aid or employment possibilities for her patients as well as being able to secure information relative to matters of a legal nature which may concern the patient's present status. Another service which again looks toward the treatment or eventual community adjustment of patients is locating or contacting relatives who for some reason have not been in close touch with the patient. These neglected sources of help may not only furnish material assistance such as gifts or money for glasses, teeth, or other needs of patients, but they may also offer encouragement, renewed contact with the outside world, and occasional opportunities are created whereby patients who have considered themselves forgotten may be able to live temporarily in the community. Similar to the happiness brought by interested relatives is that resulting from personal services done for the patient by the social worker. The more common of these include obtaining clothing and personal belongings, writing letters to friends or relatives, arranging visits of patients to or from sick or elderly relatives, and investigating bank accounts insurance payments, or pay checks due, etc. In general, the patient's reaction to these favors is one of more immediate gratitude and pleasure than can be obtained otherwise and furnishes a foundation on which the social worker may build up confidence for future social treatment. In the placement of patients for whom no homes have been offered the social worker has an opportunity at once to utilize her most discriminating technique and to prove her economic value to the hospital most clearly. Here she must create opportunities and must evaluate skilfully the economic, physical, social and psychological factors involved. In so doing she is relieving the State of burdens which it might otherwise carry indefinitely. This means building up community contacts, knowing the social characteristics of her district, and fitting her particular patients into the situation which presents itself. The proportion of patients released in this way varies greatly according to the individual circumstances, but it appears that in some hospitals a very appreciable number of the patients going out in the community would not do so without the assistance of social service, particularly at this period of severe financial stress when families are loath to take back dependent members and employment possibilities are almost non-existent. Coincident with this situation has come a deliberate change on the part of one or two hospitals in the type of patient selected for boarding-out. In the past this care has usually been given to elderly or physically incapacitated patients who could not compete in the economic world. Many of them stayed under Family Care for years, leaving little chance for quick turn-over or fuller use of these funds. Under the present plan, however, the boarding-out status is conceived as a stepping-stone from the dependence of the hospital to independence in the community. Patients are selected who have some prospect of eventual community adjustment and are discharged as they are reabsorbed in a normal environment, thus shortening their own period of hospital residence and then releasing funds for other patients who may have improved sufficiently to be given a similar trial. On this basis it would seem that the use of extensive Family Care may become a highly constructive element in our program for the care of the mentally ill.

Occupying less time but of definite value are such functions as interviewing and advising relatives, obtaining interpreters, securing permits to cover special needs, locating patients on escape and returning patients to the hospital. Some of the most difficult questions, which are fundamentally psychiatric in nature, are frequently put to the social worker by relatives of patients who wish to know whether they should marry, whether a particular type of mental disease is hereditary or what the outlook is for children of patients showing certain behavior manifestations. Fortunately for the social worker's peace of mind relatives much more frequently question her about hospital rules or procedures which she can and should explain fully and clearly. The range of activities for which permits (to which reference has previously been made) are required in the different state hospitals would make a list too long to record here, but we should mention taking patients for rides, releasing patients to homes other than their own, bobbing hair, administering ether, performing any operation, making burial arrangements, etc. Locating or trying to locate patients on escape figures as an occasional, if not routine assignment for social workers, and gives an opportunity for the expression of those half-submerged detective cravings we all have. Returning patients to the hospital from either visit or escape may under some circumstances contain a real therapeutic value but in general it partakes rather of the disciplinary and restraining functions of the institution. In addition to all the concrete services to patients mentioned above is the less tangible but no less valuable function served by the social worker in her daily contacts with patients when she acts as a friendly listener and advisor, giving more time to selected individual patients than the ward physician can give, making minor adjustments, offering encouragement, explaining rules, and in general adding a personal touch which prevents a patient from feeling he is lost in the routine of a large hospital.

Community and Clinic Work

Hand in hand with the increasing participation of the medical staffs of our state hospitals in community mental hygiene programs has come the ever-extending activity of state hospital social workers in community and clinic work. Following upon the first out-patient clinics in 1912 where has developed a state-wide system of school clinics, child guidance clinics, and adult mental hygiene clinics, in addition to which a large amount of time is spent by state hospital personnel on court and consultation cases not seen under the usual clinic set-up.

Out-patient clinics occur as often as once a week to once a month in the different hospitals and are practically always attended by a social worker. The continuation of psychiatric and social treatment with patients on visit may or may not be linked up with these clinics to which some patients report regularly. It is in this field of supervision that the psychiatric social worker has one of her best opportunities to make her particular case-work contribution. Here we find the familiar three-fold approach, namely social analysis, plan, and treatment. The analysis, whether written or not, includes a thoughtful study of constructive and destructive factors in the patient's physical and mental condition, the social environment, and the psychological relationships between the patient and those with whom he comes into close contact. From this analysis we develop a plan which may include re-education of the patient, manipulation of environmental factors, and the effort to modify harmful attitudes as shown by relatives or friends. Often this plan includes the co-operation of some local agency equipped to give specialized financial, medical, or recreational service. The division of labor between the local agency and the hospital worker will depend on many elements, such as the predominance of mental over social factors, extent and type of previous agency contact, needs of the individual patients, and distance from the hospital. In any case the situation calls for close co-operation and unity of purpose between the two workers and that mutual understanding and good-will which should be the goal of all practitioners in the art of helping people out of trouble. When patients report at intervals to a hospital psychiatrist the psychiatric treatment may be continued in a direct doctor-patient relationship. Frequently, however, the patient is seen only by the social worker who then acts as interpreter between doctor and patient and is the medium for psychiatric treatment as well as taking the chief responsibility for social treatment. As her contact with the patient continues she frequently receives requests for assistance from some member of the family and in meeting these needs is able to strengthen and enhance the position of her hospital in the community. Human nature being what it is a slight service rendered or kindness offered may leave a much more powerful impression than the most carefully thought out lecture. It is regrettable that in so many state hospitals too large a proportion of the social worker's time has been spent on history-taking, diagnostic investigations, and miscellaneous clerical or institutional functions, rather than being given to direct treatment of patients in the community. Recently, however, there has come an increasing recognition by hospital psychiatrists of the contribution which social workers can make in this field and the definite economic advantage which is to be achieved by keeping patients in the communty longer. Thus we have one hospital superintendent sayng that the real test of a social worker's value to the hospital is not how many patients she can get out of the institution but rather how many she can keep out. Realizing the importance of preparing the patient for this relationship some workers now try to interview every patient just before he leaves the hospital and still others have as a goal the contacting of all patients by social service as soon after commitment as the patient's condition justifies. The intensity of treatment varies greatly according to circumstances, some patients being seen once in a week or two weeks, with the majority probably visited once in two months, except where unusual conditions demand closer supervision. It is our impression that the time spent on more intensive supervision will more than justify itself to the hospital and the community. That the importance of the social worker in supervision is recognized, however, by hospital psychiatrists is indicated in a report of a committee of the American Psychiatric Association which says in part, "Because of the inseparable nature of personality disorders regardless of their severity or cause, with social manifestations, psychiatric service is indispensable when the aim is to restore the patient to his maximum level of social adjustment in the community." From the point of view of numbers it is of interest that patients on visit vary in the different state hospitals from about 35 or 40 to around 300, this number including the Family Care patients.

School clinic work occupies a part of the time of most hospital social service departments, as every institution but one has been assigned a district for the examination of retarded school children. However, the amount of time spent on this by the social workers varies considerably. Thus in three hospitals the workers take a majority of the school clinic histories whereas in others school nurses or other individuals have been selected and trained for this work and the hospital social service acts chiefly in an advisory or supplementary capacity. In one hospital doing 360 school clinic examinations in a year the social workers have taken as many as 170 of the social histories needed, but in another institution giving 324 school clinic examinations during a year we find no record of any school histories being done by the hospital workers, this part of the procedure having been entirely turned over to community agencies in the latter instance. The advantages and disadvantages of these two systems have furnished much material for discussion, but at this time we can merely point out the differences in practice.

With the coming of child guidance and adult mental hygiene clinics state hospitals and their social workers have assumed their share of responsibility for educational and publicity work, organization of clinics, and actual carrying on of clinic procedures. This has been done at times in co-operation with community workers or persons from the Division of Mental Hygiene, but in many instances the entire clinic personnel has continued to be made up of members of the hospital staff. Thus of eighty-one clinics in Massachusetts listed by the Society for Mental Hygiene forty-four are under State Hospital auspices, suggesting the extent to which our hospitals are in fact as well as theory becoming centers of mental health. At present two hospital workers are giving practically their entire time to clinic activities, having only the slightest contact with hospital patients, while many others are giving a third to a half of their time to this. In addition hospital social workers are frequently called upon to secure data for diagnostic purposes, investigation, or treatment of court and consultation cases referred to hospital psychiatrists as well as being requested to take histories or to make investigations on patients sent by the court for observation and to make investigations for other hospitals and clinics at a distance. Where for some reason the services of a psychiatrist are not first requested, the social worker may act in an advisory capacity for other social workers in community agencies or for individuals with special problems who have reached the point of asking for assistance. This means that hospital social workers must be prepared to recommend suitable sources of psychiatric help, suggest boarding-homes or hospitals, advise examination for commitment or offer other types of ordinary case work. If the accusation of too great concern for custodial care of the mentally ill still needs refutation it can nowhere be more convincingly found than in the amount of time, thought, and money being spent by state hospital social workers throughout Massachusetts on community and clinic activities.

Occasionally the social worker is called upon to devote some time to hospital employees who are in difficult or trying situations. This may consist of case work of the simpler sort, such as suggesting childplacing agencies, directing to relief authorities, or helping to receive treatment at some special clinic. In other instances the social worker may be called upon to help in the solution of more complicated problems pertaining to marital difficulties, employment maladjustments or psychological handicaps. The extent to which she is so utilized will depend, not only on the amount of tact and good faith she has shown in her dealings with employees, but also upon her ability to convince those with whom she associates that she is a trained social worker capable of handling those social problems which may beset the normal as well as the abnormal individual. It is to be hoped that the opportunities for service to hospital employees may eventually become a definite function of the hospital social service department. In fact, a very definite need has been expressed for such service by one of the leading state hospitals in the state.

Educational Activities, Research, and Miscellaneous Functions

Hospital social workers are now expected to assume part of the educational work of the hospital and are doing so in rather surprising degree. In hospitals having training schools for nurses or attendants the head social worker usually gives a course on social work. She may also present aspects of her work to the physicians, occupational therapists, and other groups. Outside the institution she may be found lecturing on mental hygiene, psychiatric social work, or related topics to parent-teachers' meetings, visiting nurses, church organizations, or gatherings of professional social workers. While this may be more spectacular it is not to be forgotten that in her daily contacts with relatives and friends of patients every hospital social worker does an uncalculated amount of educational work. Another share of her time is given to research, whether carried on under medical direction or independently as a social service project. For example, social workers have recently been contributing to research carried on by their hospitals on such topics as drug therapy for schizophrenics, the adjustment of general paralysis patients in the community following malarial treatment, and certain questions raised in the study of twins in families showing psychopathy. Feeling also their responsibility to their own specialized branch of a profession yet young they are serving on study committees or other groups engaged in research pertaining to the technique, philosophy, or reality aspects of psychiatric social work. They attend conferences at the State House for all workers in the Department as well as meetings of groups like the Psychiatric Round Table, presenting cases and papers and taking an active part in discussion. To combat a certain physical isolation almost always inherent in state hospital work they maintain membership in various allied organizations and attend meetings with such differing interests as councils of social agencies, associations of hospital social workers, parent-teachers' societies, etc. Realizing the importance of keeping in touch with the best developments in the institutional field, particularly for clinic purposes, they make many visits to other institutions of all types, observing functions, aims, and methods. Thus one hospital reported in one month visits to seven different institutions, not one of which was a state hospital. The workers' range of interest obviously extends beyond their own limited practice to all the related fields of psychiatry, psychology, criminology, education, and general social work.

Within the hospitals there are many functions not easily classified but often considered as a regular part of the social worker's job. These include attendance at medical staff meetings and usually conducting occasional social service conferences for the benefit of the entire staff. Within the social service department itself the training of students, new workers, or volunteers requires a large amount of time spent in individual conferences, group meetings, and general supervision. Social workers are requested at times to prepare or secure abstracts and take notes on hospitals meetings. They are expected to participate in hospital recreation, attending patients' dances, entertainments and related activities.

In conclusion, we would point out that many of the functions mentioned above, while not appearing to constitute real social case work, are of value in calling attention to the needs and opportunities for case work. In addition, the hospital social worker is giving a large amount of time to direct social treatment of mental patients.

SOCIAL WORK WITH CONTINUED CARE PATIENTS IN A STATE HOSPITAL FOR MENTAL DISEASE

By Mrs. Grace D. Raynes
Psychiatric Social Worker, Grafton State Hospital

The chief purpose in writing this paper is to show something of the nature of social work in a state hospital, the majority of whose patients remains for a long period of time. It is not an uncommon thing for friends or others to express considerable surprise in regard to the interest of a social worker who has selected a state hospital where the majority of patients will probably remain for a long period of time. I hope in this paper to clarify my work to the extent where I may be able to justify my position as a state hospital social worker.

The labels "acute" and "continued care" are often misleading. It means, I suppose, that one patient has a disease whose end and beginning are sharply perceived, and another a disease long continued, but we are told by reputable psychiatrists that the psychoses usually labeled "acute" sometimes return: that the mind is prone to retain the habits of thought labeled a "neurosis" even after the overt behavior may have disappeared. In a hospital for mental disease — the patients who are able to go home or to get jobs are usually termed "acute" and the others who have to stay quietly or not so quietly behind the locked doors are designated as "continued care" patients. This distinction may be somewhat confusing because the "acute" patients often go home because they have homes to go to and loved ones to care for them. Others given the same resources — many a so-called long resident patient would be at home too, the fact being that many patients who have been in the hospital over a long period of time have no homes and few, if any, interested relatives.

Few of us have progressed to such an eternal wisdom that we can dare with any finality to label our patients "hopeless". It is far more accurate to regard us all as human beings, personalities in progress or regress. The social worker because of her special equipment is perhaps able to "size things up" and learn the facts concerning the patient's special maladjustment — partly because she remembers the time when things did not hang right in her own life and knows the ways of help.

So, I am going to call the kind of social work in which I am most interested social work with mentally diseased patients in a hospital where most of the emphasis is laid on the well-being of the patients. This policy of excellent daily care and treatment emanates from a superintendent who has a warm personal interest in his patients.

The functions of a social worker with regard to resident patients will fall into two main lines: —

1. *Social Case Work.* — this usually means interviews with patients who will probably leave the hospital, talks intended to prepare them for assuming community life anew, but I interpret social case work as preparation for whatever milieu the patient is to be in. The institution is as truly a social environment as the community.

2. *Personal Services* — done for patients.

I believe that personal services, properly done, may be the best sort of social work because it is the peculiar province of the social worker in which she cannot be accused of usurping the proper place of the psychiatrist when performing so-called "social therapy" with only one social group in mind and that group the community beyond the institution population.

Being committed to a hospital is a rent in the life of the patient — however psychotic. He is ripped out of the familiar fabric of his environment. It is for him a cataclysmic change, and a terrible isolation. It is the social worker's privilege to bridge this isolation.

I divide personal services according to the nature of the particular person's isolation from his own special needs — his physical needs — beauty, knowledge, friends, husband, children, his God.

(*a*) First of all — his material possessions. Here is the patient in a dormitory of fifty-beds — without any of his own "things". Perhaps it's just a particular pipe he wants — but part of him is in that pipe. Our personalities extend to and through the things we own and love. I think here of F. a blind colored man at Grafton (age 52 years, diagnosis General Paresis, admitted September 29, 1926.) After two years of urging I induced his former landlady to send his trunk to the hospital. It was full of old pictures and letters. We opened it one afternoon in the basement of the ward — the clothing supervisor, the patient and I. It was as if someone had given F. eyes. He had always been a somewhat slack patient though he had been a great dandy previous to his admission. Now — with the advent of his own clothes, he took greater pride in his personal appearance. He didn't have to grumble — he was too busy reminiscing over the feel of the different medals which his father had received in the Civil War. And as for a wretchedly unhappy white patient, G (age 61 years, diagnosis Tabes Dorsalis, admitted March 7, 1931) in the same ward — he forgot to be disagreeable, because he became so interested in reading the patient's letters to him and in putting them back in a pasteboard shoe box rigged up as a treasure chest for him.

(*b*) Next the patient's food. Food can cause profound misunderstanding between people — I always remember the social worker who thought certain houses dirty because they sometimes smelled of garlic. There is a Chinese woman patient (age 44, admitted June 1, 1933), diagnosis Manic-Depressive, Mixed Type) here who fitted poorly into the hospital routine because she was scared, until the social worker when taking a history also collected a good, hot, Chinese dinner from the patient's family and brought it to the nurses to feed the patient at the hospital. After that she ate our rice, convinced that our intentions were good. I also may cite the case of E. R. (age 73, admitted July 3, 1933, diagnosed Cerebral Arteriosclerosis) of a very genteel family, but reduced to the utmost poverty. She is very forgetful, does not remember faces or names from one minute to the next. In a Family Welfare Society record, the worker had remarked this patient's intense liking for coffee and doughnuts. Although the patient's immediate relatives are all dead — she has a few well-to-do friends. We have solicited them often in the past for her support, and they are still interested enough to contribute the small amount needed to give this patient coffee and doughnuts on occasion between meals, the happy moments in an otherwise — to her — stale and unpleasant existence. Coffee and doughnuts mitigate even the experience she loathes most, being watched while bathing. It leaves her still a shred of individuality, of being chosen from the group.

(*c*) Personal services in *recreation* are used here mostly as reward — E. M., admitted May 22, 1906, Mentally Deficient, is a 49 year old imbecile who works in the laundry as she has for many years. She does very good laundry work. She is however, extremely jealous-worrying over the attentions paid to other patients by their relatives. Her mentality does *not* reason straight: — no relatives, therefore no attention. So the social worker has taken to being E's relative at least once a year during E's vacation. (All patients at Grafton who have jobs have vacations just as any worker on a more dignified job would.) E and the social worker go into Worcester to dine and to the theater, using money from the Christmas fund. E behaves very well and has a lovely time. But, most enjoyable of all, she has something to tell the other patients when they talk of their extra special good times.

(*d*) The *library* provides opportunity for the easiest of personal services and an entering wedge for much social therapy. In this hospital the social service office is in the library. This type of service seems to be especially helpful to the patient diagnosed Paranoid Dementia Praecox — whose emotions may be all askew but whose intellect may be remarkably sound in spots. In getting foreign books or books on special subjects and in choosing books for the patients' library, the Division of Public Libraries has been of great assistance.

We have a childish patient, Albert W. (41 years old, mentally deficent, admitted September 26, 1913) who has days when life seems to be to him intolerable. For weeks he asked the social worker for an arithmetic book, to keep. Last year he had stolen school books from a young boy patient who was preparing to enter Junior High School when he would be boarding under family care. The social worker found an unused sixth grade arithmetic and gave it to the patient, who now finds much solace therein for his restless moods, — why — I do not know. He is, when well, an excellent sign-and-poster-painter for the hospital.

Another patient took and completed a correspondence course in hotel work the better to prepare herself in a job outside. She is at present in the hospital, but certainly the course enriched her mind if not her pocketbook.

A former patient John L. (diagnosis psychoses with other brain and nervous diseases, age 52, admitted April 11, 1933) with a physical handicap of multiple sclerosis, had written short childish stories for a Sunday School paper before coming to the hospital. He only made a few dollars on each story, but it had been a job — his job. This made us believe that even after nine years of unemployment due to his physical ailment he was still worth something to somebody, though his wife thought he was good for nothing. It was easy enough for the nurse to find a fairly quiet place for him to write and for the social worker to get his typewriter fixed. But still his admission to the hospital seemed to him an overwhelming stigma. He could not write, and so let the Sunday School paper know where he was? Finally with the social worker's aid he adopted a pseudonym and an imaginary address which seemed fool proof. Then he wrote and sent his stories out and had them accepted. The next step in treatment should be to help him to face the facts — to write his correct name and use the patients' box-number on the envelope. But he has now been transferred to a hospital nearer his home.

(*e*) *Most personal services are concerned with finding friends and relatives:* Did you ever notice if you study the visiting slips for a patient who has been in the hospital — say ten years — how the visitors decrease in number? Even old friends forget. Usually the patient, strange to say, does not blame the friend for his laxness, but rather blames the mail or traveling conditions, or the "depression." Sometimes a patient transferred from another hospital will say — "He doesn't know I'm here" and it may be quite true, since often only one address of the nearest responsible relative is given on the abstracts sent with patients when they are transferred from one hospital to another.

That is why I believe firmly in the value of the ward visit of the social worker to the patient who has just come to the hospital, be he a "transfer" or a new admission. The social worker does not visit the patient in order to get information about his mental and physical aberrations but in a spirit of giving. "Is there anything I can do for you?" "Is there someone whom you would like me to write to, to tell that you're here?" "If there are any outside worries I can clear up for you "That's what I'm here for".

These remarks will often bring startling opportunities for personal services that will cement the friendly relationship between patient and worker that is the basis of all good social treatment. The patient is expected to confide in people he never saw before. He is supposed (cooperatively) to expose his mind to the psychiatrist and his body to the examining physician, neither of whom has been chosen by the patient. For anyone this is a humiliating situation, naturally eliciting explosive emotions. On the other hand when the social worker does extramural chores for the patient — it is not humiliating because he has chosen that she do them. He has admitted her, though hard pressed because confined perhaps, to the privilege of a friend.

In this connection I am reminded of F. A. age 62, diagnosis Cerebro-Spinal Syphilis. He was transferred to Grafton October 23, 1931. The abstract stated "no correspondents". My casual inquiry of F. A. himself brought forth no information about relatives but did bring forth a request for some musical instrument (he'd been a clarinet player) and revealed a keen taste for gum drops. Our funds didn't admit of money for gum drops, but a harmonica was bought from the Christmas fund for F. and he enjoyed it much. He was a bed patient here from the first. One day he asked for a pencil and paper and scribbled some almost illegible words on it to the effect that his last name wasn't A. at all but B. and that he had a brother, Robert B. The ward physician handed the paper to the social worker. It looked like a wild clue but through it F's brother was actually found. He hadn't seen F for twenty-five years. He was much younger than F and was more than happy to assuage his personal guilt-feelings with visits and gum drops. And so F was relieved of his self-made isolation — after twenty-five years — seemed content again.

Mrs. B. is a middle-aged woman — age 42 years (diagnosis Dementia Praecox, Paranoid, admitted October 23, 1931). She undoubtedly led her husband and two children a miserable existence when she lived with them and the chances are that she will never leave the hospital to live outside again. However, in the light of her wishful thinking her memories of married life have become all imbued with a holy, quiet, kind, harmony, — she, the ideal wife — Mr. B. the ideal husband (whom other people had influenced wrongly against her) and the children young and shining seraphs. Since Mrs. B. never received any mail and her husband and children never came to see her, the impression in the ward generally among the other patients was that the wonderful Mr. B. didn't exist. The roots of her dream were threatened. A letter by the social worker to Mr. B. brought forth the response that Mrs. B. had made his life Hell and he would not have anything to do with her. But, wonder of wonders, — it enclosed a picture of Mr. B. (in golf knickers) and of the B. children, very mature young people of twenty one and nineteen respectively. This picture was passed on to Mrs. B. and succeeded in bolstering up not only her dream world, but her self respect. She was not wholly a "liar" in the eyes of the ward.

Then there are the patients whose children are being cared for by the state. Psychotic and neurotic women often take very good care, physicially, of their babies, and though many times they seem to love their babies too much, the Division of Child Guardianship and all other children's agencies in this state are responsive to requests for news about patients' children. A picture or a letter helps, but the grand moment comes when the social worker can say that she has *seen* Johnny and "yes he is well and big — getting his second teeth". If the patient becomes well enough to care for the children again the social worker will have built a bridge for her and there is no awkward gap. She has been in touch with her children all the while she has been away, and they, perhaps, in equal touch with her.

(*f*) *Religion.* Religion is the relationship of a man with a Cosmic Power outside himself. It is his indication of security in an impersonal world. Personal services in religion are performed of course in a hospital for mental disease by regular clergy who visit the wards; but there are still gaps which the social worker is called upon to fill. Perhaps it is getting the patient a priest who speaks a foreign tongue or a Bible which the patient can use in his Bible class. All of us — normal and abnormal — have our symbols which express, in essence, the inmost significance of life to us, and it is not fair that patients be deprived of these tokens.

Conclusion. Whether the patient is likely to leave the hospital or not personal services by social workers have value: —

First, because this type of social work treats the person as a very special individual with his own peculiar needs. It is based on the primary data of all good social work: — what the patient wants for himself out of life. It helps to balance the necessary group — treatment of patients on the ward where they often eat, sleep, walk, sit, and work together as a flock. It treats them as human beings and so makes them feel like human beings and not like numbered cases.

It has actual results in achievement of present though perhaps brief happiness. It results in adjustment temporary to be sure, but as important in the relationship of the hospital patient to the institution as the oft mentioned adjustments in the life of the extramural patient to the community.

Second. As a matter of the hospital policy, treating the patient as an individual with special wants from social service makes him easier to get along with in the ward, makes him a better member of the institution. Being easier to get along with in the ward he has taken a step forward for his progress on the way home, whether he ever gets there or not.

CHILD GUIDANCE CLINICS AT DANVERS STATE HOSPITAL

By Doris M. Sidwell, M. D.
Assistant Physician, Danvers State Hospital

Throughout the state of Massachusetts there are numerous clinics which deal with mental attitudes, personality problems, correction of habits and behavior of children. They are labelled according to the age of the majority of the children in attendance. For the very small children we have the Habit Clinics, for those somewhat older there are the Child Guidance Clinics, and as the youth approaches the stage of adolesence we call them by the more mature title of Mental Hygene Clinics. Whatever their name may be, the clinics all work toward the same end, the happy and satisfactory adjustment of the child to society.

It seems wholly suitable that the Department of Mental Diseases should sponsor this type of work and it does so by holding each institution under its supervision responsible for the community in which it is situated. A program of expansion has been in progress for several years. The most successful clinics are apt to be those whose communities have learned of the work from established clinics and have then made their requests voluntarily, thus paving the way for the establishment of their own clinics.

The Department of Mental Diseases feels that by utilizing its hospital staffs in accomplishing this extra-mural activity that not only will a broader knowledge of the subject of Mental Hygene be available to a larger group of people but there will also be created quite a different and more favorable impression of the functions of a modern state hospital among the laymen. In addition, among the large number of children who are studied, certainly some are potential cases who would later be confined in a state hospital. The percentage of these is doubtless small, certainly no larger than that of the general population. On the other hand, if they can be taught to adjust well enough so that they escape state hospital residence, or residence in a penal institution then the treatment is entirely justified. If these children are not potential cases for any type of institution, but if they can be guided when mal-adjusted to a greater degree of happiness and mental well being then the clinics are fulfilling a worthy cause.

Each institution of the Department of Mental Diseases carries on its extra-mural program as seems most efficient and possible in its own territory. In the Danvers State Hospital district weekly child guidance clinics are held in the following cities: Beverly, Gloucester, Haverhill and Lynn. Lawrence and Newburyport alternate with bi-weekly clinics and it is possible that Gloucester in the near future will also become bi-weekly in order to accommodate still another city in the district, which is desirous of a child guidance clinic of its own. The latter city has done considerable publicity work and investigating among its social agencies preparatory to establishing a clinic, if it can be arranged with our hospital. Cases from the city just mentioned, have frequently been referred to two of our other clinics, but by reason of distance, it is now voluntarily taking steps to establish a more accessible one.

In most communities our clinics are held in health centers, schools, and child welfare houses as the most normal and desirable locations in the community for making contacts, and the spirit of cooperation which exists is most gratifying and encouraging.

There are certain definite invaluable services which these clinics render to the community which are herewith presented:

1. The security which is offered to mothers.

Many mothers whose children present problems of lying, stealing or personality deviations, come regularly to clinics, gradually learning to apply new ideas in discipline and in understanding the wayward child. These bewildered mothers feel a sense of security in their experience with the clinics. This security is often lacking in dealing with court officers who are generally untrained in mental hygiene methods. A child on probation to the court is so many times in a position of constant insecurity from day to day, and the mother, dreading the next "episode" that will take her child to a State institution, is under an emotional strain that definitely results in marked tension and instability in the whole home situation — which varies from irritability to distrust and rejection.

2. The assistance given to mothers in helping them become acquainted with the source of conflicts.

Frequently, parents fail to realize that a newly acquired but undesirable trait in early childhood may a little later become a fixed habit, a seed from which the conflicts of adolescence may grow.

3. Understanding which the mothers gain of their children's limitations.

Not realizing that a child has mental handicaps, many mothers set a far higher goal of accomplishment for their children than it is even remotely possible for them to attain. She becomes a nagging mother, always striving to push her child to the first line trenches. If she is able to push hard enough she either has a child who is a total misfit in his group or else the child is forced into a state of shyness and self-withdrawal, that later may prove disastrous. The mother herself, becomes the disillusioned person, disappointed in her child and blames the child for lack of interest and lack of initiative, but often not recognizing the true lack — that of dull or limited mental equipment. To interpret this mental handicap to the mother early, in a kindly way and then to outline the activities that can be expected of the child, is almost to guarantee within a limited scope a satisfactory adjustment. The child is happier and the mother is more satisfied when he does his best. She understands why he fails to progress.

4. The securing of personal psychiatry for the mother.

We have several cases in our files where a mother recognizes herself as ill-adjusted — realizes it is she who is the problem and that her conflicts react unfavorably on the child and on the home. Using the child as the wedge, the mother gains advice for herself which is of direct benefit to the offspring and to the family.

5. A more humane interpretation of insanity among relatives.

At present, we have several instances among our children in which one parent is a patient at a State Hospital for the insane. These children are puzzled and worried, or restless and afraid, as the case may be. In one instance, a lad of superior intelligence presenting very marked "nervous" symptoms stopped having crying spells and night terrors, and picked up in his school work as soon as he understood that his father at the State Hospital was not put in "stocks" (the lad's idea of hospital restraint as expressed by the word "strait jacket"), was not abused, and was permitted to work on the farm when he was able.

6. Mother seeks advice earlier about her other children.

In cases where we have a second child of the same family referred, it almost invariably happens that the new case is a younger child, and gratifyingly enough, it is not infrequently the mother, herself, who voluntarily refers it.

7. Cooperation with schools, courts and agencies.

In many cases, we feel that children are referred by schools so that they will be "backed up" in their work with parents of problem children, as well as referring them to us as placement or behavior problems.

An interesting instance is of a most distractable, clowning boy, who was impossible in any classroom. He was studied and on our recommendation placed as a boarding student at the Essex County Training School. (He had been examined two years previously by our travelling school clinic.) When the county discontinued the boarding plan, the child was sent home. Adjustment at home and in the public school very soon became as difficult a problem, as formerly, so on court order, he was sent back to the school in Lawrence as an "habitual school offender", where he will doubtless make the same happy adjustment.

The probation officer who handled the case just mentioned, reported to us that one of our serious cases, long since closed, had been very helpfully interpreted to him through our clinics and the case is no longer a court problem.

8. Advice in foster home placing and adopting.

To the clinic have been referred several children under consideration for adoption. These children were tested psychologically and followed over a period of months, being retested at intervals before adoption was completed. One home placing agency, especially, refers many of its cases for treatment.

9. Study of special disabilities.

While we have many cases offering speech defects and reading difficulties, we have but one clinic favored with a "speech teacher." She is in great demand and has been most generous in seeing cases from our other clinics and outlining treatment procedure for our psychologists to continue under her supervision.

Reading disabilities are considered, and while no single permanent worker is trained however, each year special work has been done with a few selected cases by one of the psychologists who makes a more than general study of this phase.

10. Child Guidance Clinics carry on work of Traveling School Clinics.

Occasionaly there are cases examined by the clinics for retarded school children, who need a deeper study than these clinics are able to give. They are referred to regular clinics for personality study.

11. Vocational guidance and redirection of recreation.

In several cases vocational guidance has been given and in many instances redirection of recreational activities into more constructive fields has lead to attitude changes for improvement in the child.

12. The reference of physically handicapped children to proper agencies.

Many cases referred as behavior problems are found to be neither of psychic nor emotional origin, but with a definitely physical basis. In all these cases contact is effected with proper correctional institutions, if possible, and when parental cooperation exists.

13. Conferences to interpret the child.

To our conferences, usually informal, we invite individuals from the referring agencies, teachers, welfare workers, police women, nurses, and whoever we think will contribute to and be helped by a greater understanding of the child. This almost invariably brings the child into a different light from "a little pest," "horrid child", "thief", or other derogatory epithets, and shows the community how little anyone knows about the environment, the background, the economic struggle, and lastly, the mental struggle the child is experiencing until he is studied as the whole child — at home, at school, on the play ground, on the street, and — alone.

14. Social workers as confidantes.

Not alone are the visits of the social workers to the homes extremely important to the psychiatrist, but they offer a contact that many of the poorer mothers seldom have — an outlet to an impersonal confidante that they might fear to make of their "over-the-fence friends", and also a confidante who is not closely tied up with welfare and money dispensing agencies.

15. Contact with parents, teachers and clubs.

The staff of the clinic makes further contacts in the community, especially in the winter season, by speaking to Parent-Teacher Associations, to Mother's Clubs and similar groups endeavoring to enlighten them along mental hygiene lines and child psychology.

To sum up the activities of the clinic, it investigates all phases of the child's life of which data can be secured, re-refers the child to other clinics when indicated, and attempts to interpret to school, court, family, and agencies a greater understanding of the whole child.

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